Volunteer Firemen

DECEMBER 1965

NATIONAL FIRE PROTECTION ASSOCIATION
INTERNATIONAL
60 Batterymarch Street Boston 10, Massachusetts

North Arlington's latest is a Mack

THIS new 750-gallon triple-combination pumper was recently delivered to the Fire Department of North Arlington, New Jersey. It's a standard Type 85 Mack equipped with a semi-cab.

Mack's great engineering resources, unmatched in the industry, can develop the solution to any special needs you may have. And in meeting your basic need for ruggedness and reliability—for apparatus you can trust—the experience of 35 years shows you can't beat a Mack.

MACK MANUFACTURING CORPORATION, FIRE ENGINE DEPARTMENT
EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

Mack
FIRE
APPARATUS

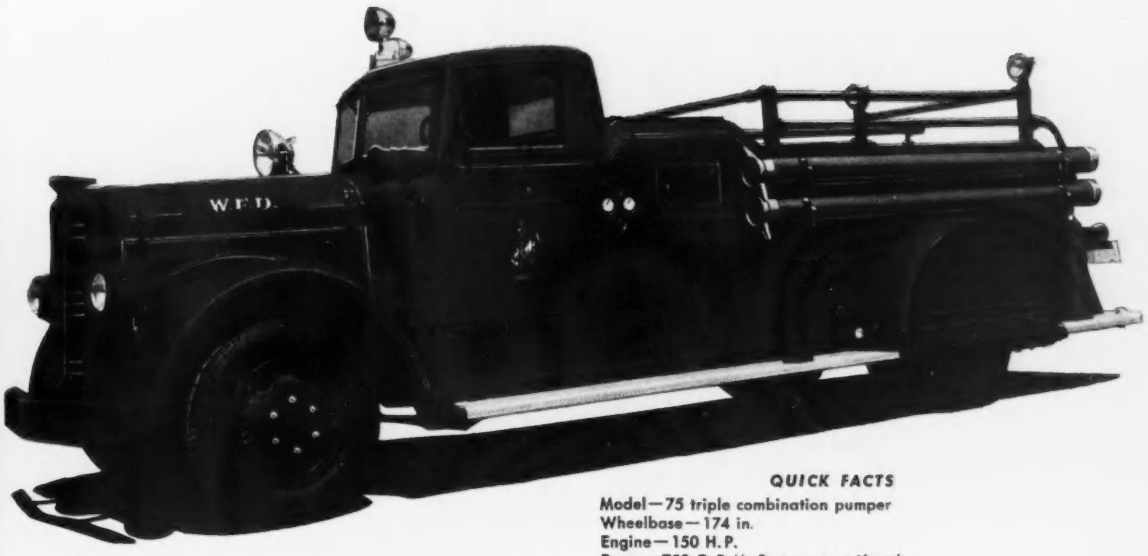
If your community needs additional fire-fighting equipment or replacements, think of Mack. Remember, Mack Fire Apparatus is backed by the greatest engineering resources in the industry.

Performance Counts!

Performance Counts!
APPARATUS
MACK MANUFACTURING CORPORATION, FIRE ENGINE DEPARTMENT
EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

WARD LAFRANCE for PERFORMANCE

...In the Laramies as at Sea Level



Triple Combination Pumper for Wheatland, Wyoming

QUICK FACTS

Model—75 triple combination pumper
Wheelbase—174 in.
Engine—150 H.P.
Pump—750 G.P.M. 2 stage centrifugal
Length—23 ft. 6 in.
Weight—14,200 lbs. fully equipped. No hose, water or men.
Booster Tank—250 gallons, mounted flat in body

WARD
LA FRANCE

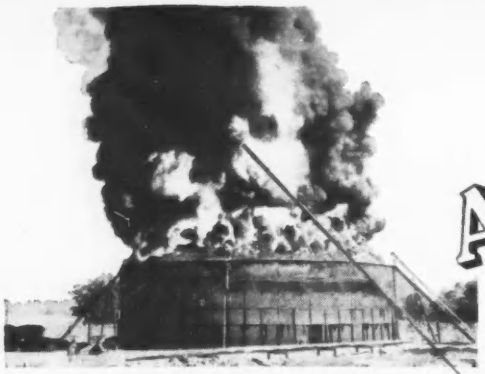
Forty-seven hundred feet up, in the foothills of the Laramies, Wyoming, the small community of Wheatland has its own important fire protection problems...vastly different from those of a congested urban metropolis. Yet, both get an exact fit to their needs from Ward LaFrance

One reason is the completeness of the Ward LaFrance line, which keeps expensive special engineering at a minimum. Another is the basic advantage of the six-cylinder Ward LaFrance engine, which produces peak power from cold starts in any climate.

Our engineers are specialists in fire apparatus. They will welcome your inquiry. Write our Sales Department, describing your community's needs in as complete detail as possible.

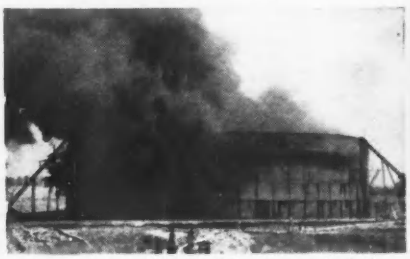
GREAT AMERICAN INDUSTRIES, INC.
WARD LAFRANCE TRUCK DIVISION

ELMIRA GAI GREAT AMERICAN INDUSTRIES **NEW YORK**



6800 sq. ft. of blazing light crude oil after burning 23 minutes.

AER-O-FOAM Put this Fire Out



Two minutes after Aer-O-Foam was started.

Three minutes later.

THE AER-O-FOAM BLANKET THAT DID IT

Only 375 gallons of Aer-O-Foam liquid were used to extinguish this fire in a 93 foot diameter tank, containing Illinois crude oil to a height of 19 ft. The fire was completely extinguished in a few minutes by applying Aer-O-Foam at the rate of .66 gallons per sq. ft. of oil surface per minute. Aer-O-Foam was applied at two points through National Type "L" Foam Chambers with Moeller Tubes.

Aer-O-Foam, developed by National Foam System, smothers fire with a thick, tough, enduring blanket. Tagged "Bean Soup" by the Navy, Aer-O-Foam does for peacetime industry the same superb job it did in war. It sticks to insulate flame-threatened flat or upright areas—it flows equally well to smother the hottest fires in petroleum, chemical, aviation and other industries.

National Foam, as powder or Aer-O-Foam liquid, fits every industry's post-war budget. Ounces of fire prevention save many million pounds in plants and materials. Foam's gas-tight blanket quickly extinguishes fires, prevents them from spreading, permits no flashbacks.

Don't wait for fire to cancel your peacetime expansion. Wire, telephone or write today to safeguard your progress. Our engineers are yours.

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for use of Fire Departments to meet all types of foam fire fighting requirements.

NATIONAL FOAM SYSTEM, INC.

SPECIALIZING IN FOAM FIRE PROTECTION

Packard Building. Philadelphia 2, Pa.

Volunteer Firemen

VOLUME 12 NUMBER 12

WARREN Y. KIMBALL EDITOR
ANNE BAILEY ASSOCIATE EDITOR
CHARLES S. MORGAN ADVERTISING MANAGER

PUBLISHED
NATIONAL FIRE PROTECTION ASSOCIATION
60 BATTERYMARCH ST., BOSTON 10, MASS.
A VOLUNTARY NON-PROFIT ORGANIZATION

PERCY BUGBEE GENERAL MANAGER
ROBERT S. MOULTON TECHNICAL SECRETARY
HORATIO BOND CHIEF ENGINEER

CONTENTS

For December, 1945

Bombings Set Great Fires in German Cities 6
Let's Get Acquainted — How Do You Select Your Officers? 8
How Not to Call the Fire Department . 9
Good Stop by Small Department . . 9
U. S. Navy Fire School Host to N.F.P.A. Firemen's Training Committee 10
Chicago First in Fire Prevention Week Contest 12
What Will Sprinklers Do on Magnesium Fires? 14
Fire Razes Abandoned Elevator . . 15
Glendale, California, Firemen Battle Big Blaze 16
Fire in "Fireproof" Hotel during Fire Prevention Week 16
Fort Morgan, Colorado 17
Fire School Reports 18
What a Postwar Fire Engine Is Like . 20
North Jersey Fire Officers' Training . 22
House Fire Yields to Waterfog . . 26
Massachusetts Charitable Fire Society 30
Six Die as Two-Story Hotel Burns . . 31
Fatal Fraternity House Fire . . . 32
Membership 36
1945 Index to VOLUNTEER FIREMEN . 38
Manufacturers' Page 40

"The Night Before Christmas in 1945"

'Twas the night before Christmas, when all through the house,
Not a creature was stirring, not even a mouse,
When down through the chimney, all covered with soot,
Came the "Spirit of Fire," an ugly galoot,
His eyes glowed like embers, his features were stern,
As he looked all around for something to burn.
What he saw made him grumble, his anger grew higher,
For there wasn't a thing that would start a good fire.
No door had been blocked by the big Christmas tree,
It stood in the corner leaving passageways free,
The light that glowed brightly for Betty and Tim
Had been hung with precaution so none touched a limb.
All the wiring was new, not a break could be seen,
And wet sand at its base kept the tree nice and green,
The tree had been trimmed by a mother insistent
That the ornaments used must be fire resistant.
And mother had known the things to avoid,
Like cotton and paper and plain celluloid,
Rock wool, metal icicles and trinkets of glass,
Gave life to the tree; it really had class.
And would you believe it, right next to the tree,
Was a suitable box for holding debris,
A place to throw wrappings of paper and string,
From all of the gifts that Santa might bring.
The ugly galoot was so mad he could bust,
As he climbed up the chimney in utter disgust,
For the folks in this home had paid close attention
To all of the rules of good "Fire Prevention."

— Los Angeles Fire Dept.

MANY departments are sending equally interesting cards with a similar Christmas message. The Yuletide season is one of rejoicing, not to be marred by needless suffering from home fire tragedies.

The Editor wishes, at this time, to thank all those who have contributed their suggestions and articles toward a better VOLUNTEER FIREMEN.

The cover picture report this month appears on page 16.

THE United States fire loss for October was $34,470,000, according to the National Board of Fire Underwriters. This figure was 7 per cent higher than for the same month in 1944.

Fire losses for the twelve months ending last October reached $450,894,000, as compared with $420,465,000 for the same period, October 1944.

Canadian fire losses for the month of October totaled $3,411,000, according to the *Monetary Times*.

From the October *Quarterly*, VOLUNTEER FIREMEN presents a digest of the estimated 1944 U. S. fire loss distribution by occupancy. These figures are based on reports from fire marshals in states from coast to coast.

	No. of Fires	*Loss*
Public Buildings	10,900	$68,650,000
Dwellings	345,500	112,500,000
Mercantile	65,900	87,500,000
Manufacturing	29,900	98,000,000
Miscellaneous	147,800	89,350,000
	600,000	$456,000,000

The estimated distribution of U. S. fire losses from the ten leading causes in 1944 are:

	No. of Fires	*Loss*
Smoking and matches	100,000	$43,000,000
Unknown	62,000	153,000,000
Defective or overheated heating equipment	60,000	15,000,000
Electrical	58,000	43,580,000
Sparks on roofs	47,000	10,500,000
Chimneys, flues—defective or overheated	34,500	15,400,000
Children and matches	29,000	1,000,000
Rubbish	23,000	6,000,000
Flammable liquids	23,000	12,000,000
Exposure	20,500	17,000,000
	457,000	$316,480,000

★ ★ ★

Here's a fight that's far from over — against tuberculosis, the dread plague that still kills more Americans between 15 and 45 than any other disease. Remember, there can be no peace treaty with tuberculosis.

Buy Christmas Seals

Bombings Set Great Fires in German Cities

U. S. Strategic Bombing Survey's Reports Show the Size of the Fires and How They Were Fought

Official photo U.S.A.A.F.

Berlin, Germany. This area is immediately north of the Tiergarten on both sides of the River Spree as it appeared after tremendous Royal Air Forces night assaults in late 1943 and early 1944. Damage here was caused almost entirely by fire.

EXPERTS of the United States Strategic Bombing Survey are studying the effects of air attacks on Japan. They promise reports to the Secretary of War which will undoubtedly discuss the great fires which have been reported there. Perhaps it will then be apparent what fire fighting (if any) is like under atom bomb attacks.

A report on the bombing of German cities, just issued by the Survey, throws some light on the fires which had to be fought in cities attacked only with incendiaries, and with high-explosive bombs of which the biggest, a British bomb, was 22,000 pounds.

Fires started by attacks by the Royal Air Forces on Hamburg, Germany, in July 1943 destroyed all buildings in an area of 12½ square miles. The Hamburg fire department produced the best figure to illustrate the size of these fires by measuring the street frontage of the buildings involved in the biggest single fire area of the three nights of heavy raiding. This was 130 miles. So if you think of a street 65 miles long with good sized buildings (most of them were at least 5 stories) on both sides, and all afire at once you get the general idea. This was the size of the wartime fires visited on German cities by air power.

The Survey, which reported on the bombing of Germany included in its personnel, which totaled over 1,000 persons, twelve consultants on fire matters. Notable among them were Chief Anthony J. Mullaney of the Chicago Fire Department and Chief Frank C. McAuliffe of the Chicago Fire Insurance Patrol. N.F.P.A. engineers Horatio Bond and J. K. McElroy worked on certain phases of the Survey, as did Clarence Goldsmith, Assistant Chief Engineer of the National Board of Fire Underwriters of Chicago. Others were a group of Army officers and civilians, all experienced fire protection engineers. Some of the Report's paragraphs are quoted here.

"Germany presented, at the close of hostilities, many contrasting aspects. Great stretches of countryside and many small and medium cities had suffered no physical damage from the Allied bombing offensive; but forty-nine of the larger cities, those of industrial importance, had 39 per cent of their dwelling units destroyed or seriously damaged (2,164,800 out of 5,554,500), and many of these cities had lost their central and business districts and remained as suburban rings surrounding destroyed cores. The majority of industrial plants, those that served strategically unimportant industries and were in locations that escaped area attacks, were undamaged; but great numbers of plants in industries of strategic importance were crushed.

"Many German cities presented partial areas of vast devastation. Perhaps the outstanding example was Hamburg, where a series of attacks in July and August of 1943 destroyed 55 to 60 per cent of the city, did damage in an area of 30 square miles, completely burned out 12.5 square miles, wiped out 300,000 dwelling units, and made 750,000 people homeless. German estimates range from 60,000 to 100,000 persons killed, many of them in shelters where they were reached by carbon monoxide poisoning."

The Hamburg attack was made by the Royal Air Forces (in which it should be noted that the Royal Canadian Air Force was a strong part) months before the AAF could mount such an attack. The life loss figure is likely to shock some people — the same ones who were horrified by the atom bomb attacks. The Survey's estimate of the total loss of life due to bombing of Germany is only 305,000 dead, so about one bombing casualty in five was a fire death in the Hamburg attacks. This terrific life loss, and the destruction of homes, is rational in the light of the fact that the blow was directed against the Nazi submarine campaign. People had to die in Hamburg because submarines came from there — the submarines which were sending Allied men and ships to the bottom of the sea and threatening the starvation of men, women and children in Britain.

A separate document issued by USSBS, the Summary Report, says "No subsequent city raid shook Germany as did that on Hamburg; documents show that German officials were thoroughly alarmed and there is some indication from interrogation of high officials that Hitler himself thought that further attacks of similar weight might force Germany out of the war."

The Over-all Report, however, devotes considerable space to figures indicating that the area raids on Hamburg and other cities had disappointing results on production. In most cities war production was resumed in a month or so. All bombing on city areas, AAF and RAF, may have reduced Reich production as much as 17 per cent in 1944.

The Over-all Report continues discussion of the Hamburg attacks and fire damage:

"The attacks used both high explosive and incendiary bombs as it was thought by the Air Forces and later confirmed that the former created road blocks,

Official photo U.S.A.A.F.

Aachen, Germany, its streets cleared of the debris and wreckage of battle, an example of the effectiveness of combined air-ground bombardment. Ninth Air Force fighter-bombers and American Artillery pounded the city until the garrison surrendered. This Ninth Air Force Reconnaissance photograph reveals the extent of fire damage in one section of the city.

broke water mains, disrupted communications, opened buildings, broke windows, and displaced roofing. Most important, they kept the fire fighters in shelters until the incendiaries became effective. But, of the total destruction, 75 to 80 per cent was due to fires, particularly to those in which the so-called firestorm phenomenon was observed.

"Fire-storms occurred in Hamburg, Kassel, Darmstadt, and Dresden. Differing from an ordinary peacetime conflagration which begins at a center and then spreads, these storms occurred when incendiaries started many fires within a relatively short time over an extensively built-up area. It was estimated that, in Hamburg, within 20 minutes, two out of three buildings were afire within a 4.5-square-mile area as the result of incendiary bomb strikes. The intensity of the bomb fall was so great that fire fighting efforts were fruitless. As the many fires broke through the roofs of buildings, there rose a column of heated air more than 2½ miles high and 1½ miles in diameter, as measured by aircraft flying over Hamburg. This column was turbulent and was fed at its base by inrushing, cooler, ground-surface air. One and one-half miles from the fire this draft increased the wind velocity from 11 to 33 miles per hour. At the edge of the area the velocities must have been appreciably greater, as trees 3 feet in diameter were uprooted. In a short time the temperature reached the ignition point for all combustibles and the entire area was ablaze. In such fires complete burn-out occurred; that is, no trace of combustible materials remained and only after 2 days were the areas cool enough to approach.

"Many additional cities showed heavy fire losses, even though the intensities were less than the above. For example, Berlin was estimated to be 60 to 70 per cent destroyed, and the fire department officials of the city stated that three-fourths of the damage was caused by fire.

"In handling fires, attempts were made to utilize natural water sources and static water supplies, but no efficient method was established for the quick, separate replenishment of static water tanks, nor were water mains laid which were independent of the regular water-supply system. Consequently, a heavy concentration of additional firefighting apparatus soon depleted the static water supply and reduced the water pressure in the mains to the point of ineffectiveness. Such was the case in Hamburg in the conflagration where, in addition to the 288 pieces of fire apparatus and 36 fire boats of the local fire department, a total of 1,062 fire-fighting vehicles were sent into the city in an effort to control the fire.

"In the operation of local fire departments, nationalization was attempted, but it was never accomplished to the extent of that of the National Fire Service of Great Britain, although it did result in complete standardization of fire pumpers, of hose connections and couplings, and other equipment. To that extent it was beneficial. The absence of heavy-duty pumpers and facilities for the production of high-caliber fire streams, the use of single-jacketed hose, and the loss of communication and control brought about by the lack of two-way radios and "walkie-talkies," were weak points in fire protection, which if corrected, might have prevented the development of some conflagrations resulting from aerial attack.

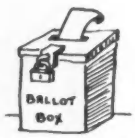
"The weakest link in the German civilian defense system was probably the rescue service, where poor planning resulted in the failure to train and equip properly sufficient personnel in techniques for the extrication of trapped persons in collapsed buildings.

"Industrial plants in Germany had excellent factory air-raid-protection

Continued from page 25

Let's Get Acquainted

HOW DO YOU SELECT YOUR CHIEF?



Choosing a fire chief is one of the big events in the life of the average volunteer fire department. City firemen who are accustomed to working under a crusty old smoke-eater, who has laboriously risen to the top after forty years of battling blazes and politicians for step by step promotions, are frequently amazed at the fact that volunteer fire departments very often change chiefs every year and that promotions may come quite rapidly in the volunteer service. A recent poll of volunteer fire companies in the N.F.P.A. Volunteer Fire Company Section indicates that more than two-thirds of the volunteer fire departments of the country still select a chief on an annual basis and that nearly two-thirds of the chiefs are either directly elected by the firemen or are appointed by city officials on the recommendation of the fire department. Direct selection by municipal officials accounted for less than one-third of the chiefs.

The N.F.P.A. Model Ordinance for the Organization of a Volunteer Fire Department contains the following recommendation: "The Chief shall be appointed for an indefinite period of time and his tenure of office shall depend upon his good conduct and efficiency. The Chief shall be technically qualified by training and experience and shall have ability to command men and hold their respect and confidence. He shall be removed only for just cause and after a public hearing." However, most volunteer fire companies have been in operation for many years, a few of them more than a century, and one means of keeping interest in the department is to give every member a chance to work to the top berth and show his leadership ability. Theoretically a one-year term is not long enough to give a chief much time to show what he can do in improving a department. However, it may be a good idea with a fire company operating on a voluntary basis, to have an opportunity each year to confirm its willingness to serve under the man they have selected as chief.

There is usually nothing, other than custom, to prevent re-election of an outstanding chief for at least two years or perhaps more. While 81 per cent of all volunteer fire chiefs serve a definite term of years, only 5.5 per cent of these chiefs had terms of office that exceeded two years in length. Nineteen per cent of all volunteer fire chiefs, or slightly under one-fifth, have indefinite terms or are appointed for life on good behaviour.

While it is possible for many volunteer firemen to work up to the position of chief, and at a younger age than is common in many paid departments, there are several reasons for this. One is that many volunteer firemen are allowed to join the organization at a considerably younger age than is common in most paid departments. Second, the average age of active volunteer firemen is considerably less than the paid firemen who must serve until they become eligible for old age pension, unless disabled in the line of duty. In most volunteer departments only the most active younger men fight fires during peacetime and the older men hold membership in an honorary list or reserve status.

The fact that two-thirds of the volunteer fire chiefs are elected for one or two year terms does not mean that these men are inexperienced when they become chief. In most volunteer fire departments using an election system there are a considerable number of offices through which a man must pass before he becomes chief. He is a second and first lieutenant, a company captain, a battalion or district chief, a deputy or assistant chief. Sometimes the grading is broken down into further divisions, so that if a man advances one step up the ladder each year he seldom reaches the top post in less than ten to fifteen years of fire fighting experience.

In the past, it has always been an accepted fact that volunteer fire chiefs were elected in accordance with their popularity in the company; and their individual ability to entertain the boys has perhaps been no small factor. It is certainly unquestionably desirable to have a popular fire chief in a volunteer fire company. In many cases where the volunteers are not allowed to choose their chiefs and some disliked treasury watchdog is appointed by municipal officials, the company quickly drops into abysmal

Continued on page 24

How Not to Call the Fire Department

AT 6:30 on the morning of October 8, a pan of hot grease on a gas stove ignited in the kitchen of the Hot Shoppe restaurant, Silver Spring, Md. The Shoppe manager put in an alarm over his private line direct to the main office in Washington, D. C. In due time, the alarm came back to the switchboard of the Silver Spring Volunteer Fire Department.

This alarm could have been immediate. The volunteer department, an N.F.P.A. member, maintains twenty-four-hour paid switchboard operators. All calls are voice recorded and have direct lines to Takoma Park, Kensington, Hilliandale Volunteer Fire Departments and Chevy Chase (paid) Fire Department. Six volunteer bunk men were sleeping in the department dormitory and the fire house is only about four blocks from the Hot Shoppe. Fire losses totaled $30,000.

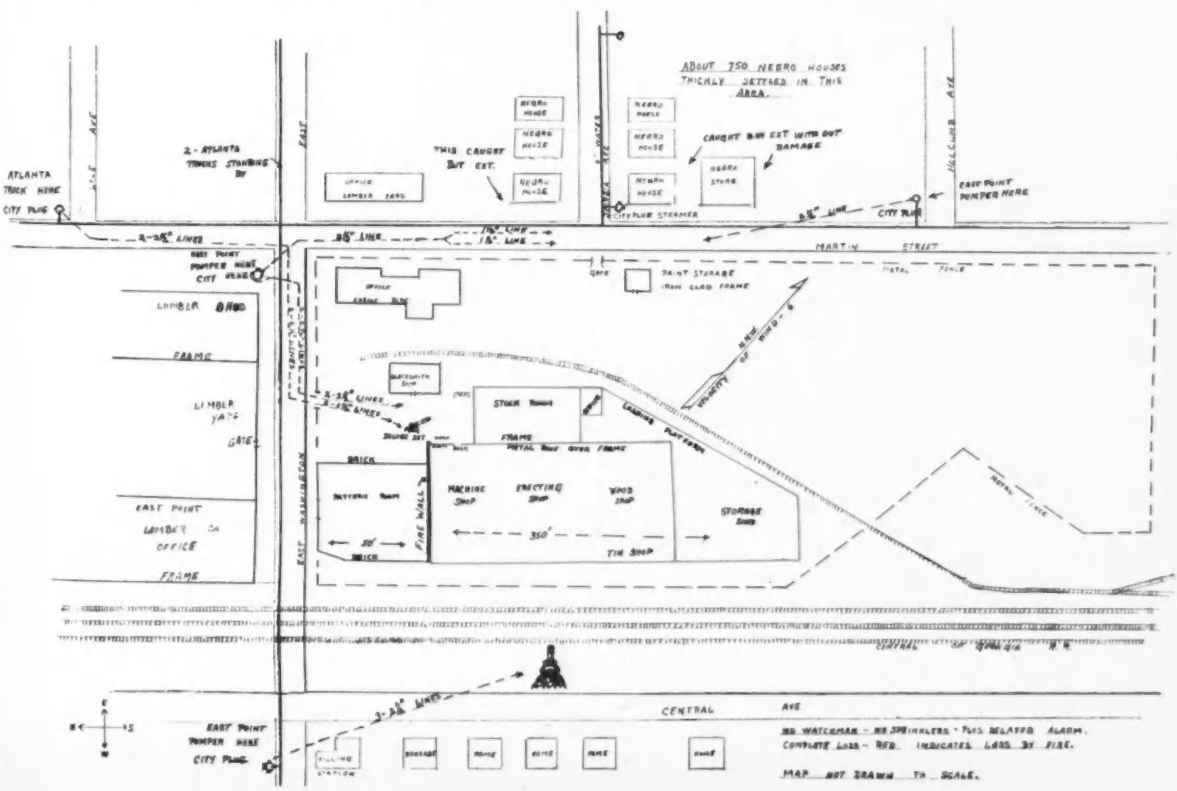
Photo by Henry Marshalk.

GOOD STOP BY SMALL DEPARTMENT

WHEN a relatively small fire department of twelve paid men makes a good stop confining a big fire to an unsprinklered frame building some 350 feet long, and already involved on arrival, it is interesting to know how it was done. A railroad signal operator discovered flames sweeping through the main shop of the Atlanta Utility Works in East Point, Ga., at 2:45 on the morning of September 12. This metal worker plant was without a watchman or other means of giving an alarm.

The metal roof was falling in just as the first engine company reached the scene. Two additional engine companies were called, and half an hour after the first alarm three companies were called from Atlanta. Only one of these had work to do in supplying two lines to a deluge set.

The diagram, prepared by Chief Max Wiggins, shows how the fire was stopped on the north by a fire wall flanked by powerful streams from deluge sets. An office and blacksmith shop to the northeast were covered by two 2½-inch lines from a local pumper. Another 2½-inch pumper line and two 1½-inch leader lines protected houses which were being ignited to the east. This fire is another example of heavy loss in a combustible plant of large area lacking watchman and sprinklers, coupled with a delayed discovery of the fire.



U. S. Navy Fire School Host to NFPA Firemen's Training Committee

U. S. Navy photo

Commander Harold J. Burke, USNR

A.D.T. photo

Members of the N.F.P.A. Firemen's Training Committee present were: Chief Harry K. Rogers, Western Actuarial Bureau, Chicago; Lt. Commander W. J. Magner, USNR, commanding officer, New York Navy Yard Fire School; Chief J. F. MacMillan, Cocoa, Florida; W. A. Ross, U. S. Office of Education, Chairman, Committee on Firemen's Training; Robert Hamm, Indiana Fire Service Training School; Commander Harold J. Burke, USNR, Director, Fire Damage Control for U. S. Navy; and Fred W. Shepperd, Fire Engineering magazine. Also present but not in the picture were Chief J. W. Just, Vice Chairman, Fire Service Extension, University of Maryland; and W. J. Scott, K.C., Fire Marshal, Province of Ontario.

OVER one hundred N.F.P.A. members and guests of the N.F.P.A. Committee on Firemen's Training attended a two-day demonstration of war developments in Navy fire training techniques at the New York Navy Yard Fire Fighters School on October 30 and 31. This first postwar demonstration, arranged by Commander Harold J. Burke, U.S.N.R., Director of Fire Damage Control work for the U. S. Navy in Washington, was under the direction of Lt. Commander W. J. Magner, Commanding Officer in charge of the New York Navy Yard Fire School and Lt. Commander Charles McKeogh, U.S.N.R., Executive Officer. The purpose of the demonstration was to enable the members of the Firemen's Training Committee and their guests to observe the Navy techniques and to consider their postwar usefulness in firemen's training. The success of the Navy in a training program involving approximately two and three-fourths million Navy men during the war period has been widely publicized, but the methods and equipment used had been hitherto generally restricted to those directly connected with the war effort.

U. S. Navy photo

The program was devised to enable those attending to witness Navy training films, equipment, and other training aids as well as to show the effectiveness of actual fire fighting in simulated ship sections in training novice personnel. The demonstrations indicated that postwar training of novice firefighting personnel by public fire departments through the use of film training aids and extinguishment of fires in closely approximated fire conditions to be encountered may have large future possibilities. The program arranged by the Navy was of considerable interest not only to the members of the Committee on Firemen's Training but to industrial fire protection engineers, public utility fire engineers, directors and instructors in firefighting training programs, government fire protection engineers, members of paid and volunteer fire

Lt. Commander Magner with three civilian fire school instructors participating in actual extinguishment operations along with Navy personnel. Left to right: Com. W. J. Magner; J. A. Maloney, St. Albans, L. I., N. Y.; Edgar A. Spotz, Public Service Institute, Harrisburg, Pa.; Capt. James C. Rogers,

departments, manufacturers, and representatives of the press who were present at the two-day demonstration.

Cutaway models of the Navy P-500 pump, the Handy-Billy pump, the Pressure Proportioner foam equipment, the Navy "pick-up" nozzle, the Navy "all-purpose" nozzle, and the Navy "Rescue Breathing" apparatus were available for inspection, and instructors, only recently returned from active fire fighting in war theaters, demonstrated the equipment. Following the preliminary study of the cutaway equipment, demonstrations were given by Navy firefighting teams in the structures and outdoor equipment using the apparatus to extinguish fires.

The P-500 portable pump weighs 240 pounds. The pump capacity is 500 g.p.m., sufficient to supply six 1½-inch lines. This pump was developed in collaboration with an outboard motor manufacturer and the Navy. It appears to have been admirably suited to Navy requirements. The engine of this unit develops 4500 R.P.M., which is considered to be exceedingly fast operation. Mechanically the P-500 pump requires considerable skill in maintenance and it appeared to members of the Firemen's Training Committee present that it would require considerable training of personnel in operation and maintenance to insure its perfect functioning in firefighting operations. The pump is not considered sufficiently rugged to take heavy duty work. The principal difficulty in the use of this unit by the Navy resulted from fouled spark plugs following continuous operation for long periods.

The Navy Handy-Billy portable pump unit weighs 106 pounds and will deliver approximately 60 g.p.m. at 100 pounds pressure, sufficient capacity to supply one 1½-inch line. This unit appeared to have fairly rugged characteristics and is considered by the Navy and members of the Firemen's Training Committee to be a suitable peacetime first aid pump.

A new appliance developed by the Navy from the injector-aid siphon principle of lifting water, called the "eductor," was demonstrated and promises to make static water supplies such as water holes, ponds, etc., available where lifts do not exceed fifty-three feet. This may be compared with a maximum of approximately twenty-five feet under most favorable conditions for ordinary pumpers. Siphons, operating with the injector principle, have hitherto been principally used to remove water from basements following fires.

The Pressure Proportioner developed by the Navy is a two-compartment, mechanical foam tank which appears to have considerable possibilities for postwar use. This proportioner permits the continuous delivery of mechanical foam if sufficient containers of mechanical foam liquid are available during the firefighting operation required. The device will require only a small amount of training of personnel for its operational use.

Demonstration of extinguishment of fire in simulated ship sections. *U. S. Navy photo*

The pick-up nozzle demonstrated is a siphon nozzle which picks up mechanical foam liquid in the nozzle. This piece of equipment has been in general use by public fire departments. Its effectiveness was of considerable value to the Navy in fighting shipboard fires.

The Navy Department development of the "all-purpose" nozzle resulted from a desire on the part of the Navy to provide a nozzle which would have a wide variety of use and which would require minimum training for novice fire fighters to be trained by the Navy. Six manufacturers supplied the nozzle to the Navy and it was believed by members of the Firemen's Training Committee that the Navy nozzle is a wartime expedient that will probably be greatly improved in the postwar period. The Navy's success in the use of vapor nozzle equipment suggests that postwar development and improvement of vapor nozzles may be very rapid.

The "Rescue Breathing Apparatus" (gas mask), developed in collaboration with the Navy and manufactured by the Mine Safety Appliance Company of

Continued on page 22

Demonstration of U. S. Navy fog-foam nozzle on 2½-inch line.

U. S. Navy photo

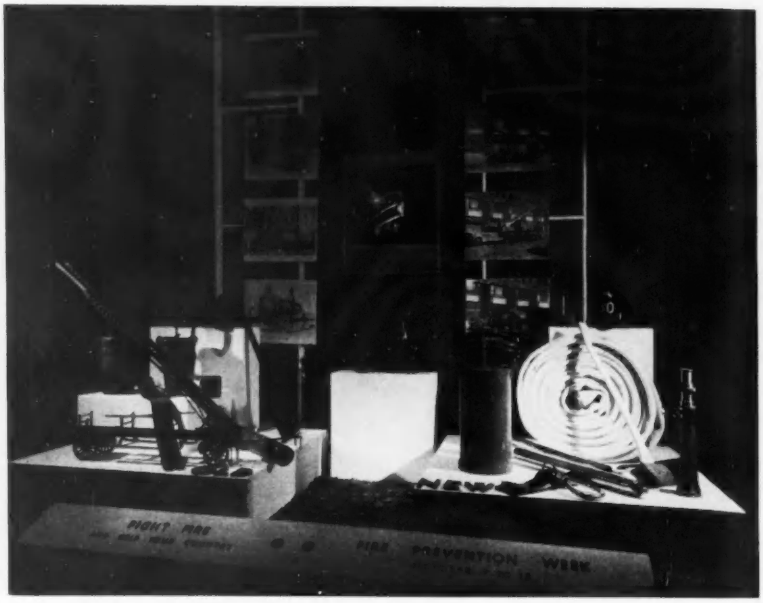
Chicago First in Fire Prevention Photo Contest

Bangor, Maine, 2nd
Decatur, Illinois, 3rd

CHICAGO, the city where Mrs. O'Leary's famed cow, set the date of FIRE PREVENTION WEEK by kicking over a lantern on October 9, in the year 1871, and starting one of the greatest conflagrations in American history, is still out in front when it comes to Fire Prevention Week observances. The Chicago Fire Department takes first prize ($10.00) for best photographs of 1945 Fire Prevention Week displays by member fire departments. Second prize of $5 goes to Bangor, Maine, and third prize of $2.50 to Decatur, Illinois.

The prize winning window display was located at Marshall Field & Co.'s State Street store where it was viewed by thousands of persons from October 5 to 29. A new feature of the Chicago Fire Department's window displays was the use of "scene-in-action" pictures of large local fires. The mechanism creates an illusion of flame and smoke belching from the burning building as streams of water pour into the structure. The window at Marshall Field's store was continued for three weeks at the request of the store management.

An annual Fire Prevention Show sponsored jointly by the Chicago Fire Department, the Chicago Association of Commerce and the Chicago Board of Underwriters was held in the Edison Electric Shops in conjunction with a display of postwar electrical appliances by some 80 different manufacturers. Counted attendance varied between 15–20,000 per day. Fire officers used miniature buildings to demonstrate common fire hazards and causes of fires.



FIRST PRIZE — A Chicago Fire Department window display in Marshall Field & Company's store. Note the "scene in action" center photo of an actual Chicago fire. The exhibit featured both old and new fire equipment.

SECOND PRIZE (below) — Bangor, Maine, Fire Department window display in Freese's Department Store featuring fire equipment, fire scenes, and a "house of hazards."

On October 16, the same demonstration equipment was used in what was probably the first use of television as a medium of visual fire prevention education for school children and others having access to television receivers. Chief Fire Marshal A. J. Mullaney reports that there are an estimated one thousand television receivers in the Chicago area at present. The Chicago Board of Education has been experimenting with telecast educational programs for some time. Excellent results of present experiments have caused development of plans for receiving equipment in all schools, with individual screens in each classroom.

The fire prevention display photo winning second prize was one prepared by Capt. James J. Cowan in a window of Freese's Department Store on Main Street, Bangor, Maine. This window featured a display of fire fighting appliances, photos of interesting fires, and a model "house of hazards" illustrating fire hazards that may exist almost unnoticed in the average home.

The third prize winning photo was submitted by Capt. Jesse T. Ping, Fire Prevention Officer of the Decatur, Illinois, Fire Department. This exhibit was

held in the Illinois Power Company building lobby where it was viewed by about 7,500 people each business day during Fire Prevention Week.

First Televised Fire Prevention Program

Capt. Edward E. Newell (right) and Lieut. Harry Wolff of the Chicago Fire Department demonstrate the "fire triangle" of heat-fuel-oxygen needed to support combustion in educational television program broadcast to Chicago public schools and other television receivers. Below the officers demonstrate the importance of explosion venting windows in factories where dust explosions may occur.

THE Fire Prevention Week observance in 1945 was the largest and most successful to date. Hundreds of fire departments took an active part in the program and it is impossible to mention the excellent fire prevention work done by all of them. Perhaps a few of the reports that have come to the N.F.P.A. executive will be indicative.

Hudson, Mich. (population 2,500), had an outstanding observance. For eight years City Fire Warden, Delbert E. Sharp, has done a solo performance in organizing a program which started with a $5 appropriation made by the town in 1938. Some of this year's features were two school plays, forty window displays with cash prizes awarded for the largest total of fire hazards identified in the displays. The hazards were listed by each contestant on printed application blanks listing each store having a fire prevention display. Nearly 400 posters were entered in a poster contest conducted in the public schools. A big evening parade with band and all the trimmings attracted people from ten miles around town. Some 1,500 persons at the main square listened to a fire prevention talk given over a public address system by N.F.P.A. President Richard E. Vernor of Chicago.

THIRD PRIZE — Exhibit of Decatur, Illinois, Fire Department in window of lobby of Illinois Power Company Building. Note that the exhibit features an "iron lung" among the items of fire department equipment.

Chief E. O. Bender of the Richmond Volunteer Fire Department, Texas, reports that the department spent about $35 on advertisements, posters, and booklets used in their Fire Prevention Week program. This material was distributed about the city and in the schools. The department had a representative at the P.T.A. meeting to ask parents and teachers to cooperate in making schools fire-minded, lecturing on fire hazards. A fire extinguisher was awarded to the holder of a lucky number. The fire department had two interesting window displays in a recently remodeled store but unfortunately photographs obtained were not clear enough for reproduction. These windows showed evidence of considerable ingenuity as to the contents displayed, which included posters illustrating various hazards such as smoking in bed, overnight cases from an auto trailer burned from a cigarette carelessly discarded from the automobile, several covers of VOLUNTEER FIREMEN. An ironing board carried a sign warning against leaving the iron connected. There was an exhibition of defective electrical connections that had caused fires, and also warnings against allowing children to play with matches.

Chief Thomas A. Owens of Oil City, Pa., proved that a small "shorthanded" fire department can do an outstanding fire prevention job. Having lost ten of the paid men to the armed forces, the manpower is down to eighteen permanent men. Nevertheless, all city schools were inspected and speakers instructed pupils in fire prevention, distributing 2,500 pieces of literature. Fire drills were conducted and timed at each school. The longest time required was only 2 minutes and 15 seconds for 1,250 pupils to leave the high school. All private industrial fire alarm boxes as well as fifty-four city street boxes were tested by firemen during the week by actual operation and found to be in excellent operating condition. A fire prevention inspection and fire drill was conducted at the hospital.

One of the finest pieces of Fire Prevention Week promotional material that has come to our attention is the *Fire Prevention News*, a four-page supplement to the *Coos Bay Times*, issued annually by the Coos Bay Fire Department in Oregon. Illustrated by eleven pictures of fires, fire equipment, and firemen, the following headlines from page one will indicate the wide variety of interesting items given in this interesting news sheet: Banner headline "Coos Bay Prepares for Fire Prevention Week; Observance Planned to be City-Wide; Coos Bay Firemen Who Have Served Department for More Than 15 Years; Mayor Calls on Citizens to Cooperate; Dock Fire Removes Warehouses Linking Modern City with Businesses of Past; Loss of Life by Fire Appalling; Avoid Panic First Rule Remember in Case of Fire; Large Fires Dot List in America; Farm Loss from Fire Reached 90 Million in 1944; Alarm First Step in Fighting Fire."

Chief Charles M. Levering, La Plata Volunteer Fire Department, La Plata, Md., gives a very interesting account of the fire prevention program of that department serving largely a rural area.

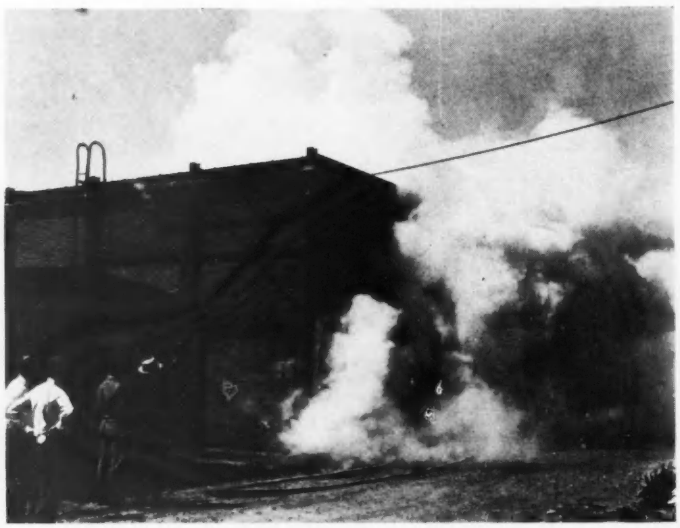
"Members of the La Plata Fire Department are convinced that fire prevention work does pay, and appreciate and depend upon the help offered in this work by the N.F.P.A.

Continued on page 32

What Will Sprinklers Do on Magnesium Fires?

Tests at Factory Mutual Laboratories Show Value of Sprinklers

LEARNING the best methods of controlling magnesium fires has been one of the more recent problems confronting fire protection men and fire fighters concerned with industrial fire safety. One of the major questions to be settled was whether or not to provide automatic sprinkler protection for magnesium hazards. To get the answer one of a series of very interesting and spectacular fire tests was conducted at the Norwood, Mass., Experimental Station of the Factory Mutual Laboratories on September 25. Witnesses of the tests were representatives from leading manufacturers and users of magnesium and its products and fire protection engineers from the Factory Mutual Laboratories and from the N.F.P.A. Executive Office.



Photograph of test house in which fires took place, showing volume of fumes after sprinkler operation on fire.

First Test — Without Sprinklers

The first test which was conducted in a fire resistive test structure was designed to show how magnesium burns when no extinguishing materials are applied and also to demonstrate the effect of magnesium fires on factory buildings. Six hundred pounds of light magnesium castings were placed in a slatted wooden bin in a test house. On the floor next to the bin was a small pile of magnesium turnings. The turnings were ignited; they burned slowly at first, and it was fourteen minutes before the castings caught fire. This showed that castings are slow to ignite, but the danger would come where any hot localized fire got a good start near the castings before it was discovered.

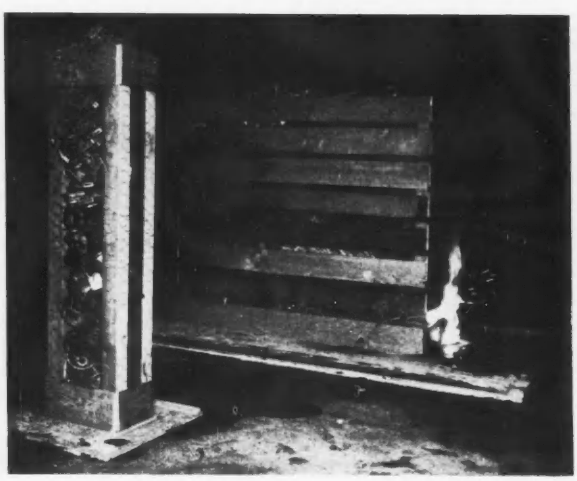
In about an hour all the castings were consumed. The maximum temperature under the sixteen-foot high concrete ceiling was 520° F. Samples of structural timber had been fastened at the ceiling to represent roof framing. These caught fire and were charred; indicating that if the roof had been of wooden construction, it would have been destroyed.

This test showed that magnesium castings are not easily ignited. However, once magnesium has ignited, it will continue to burn until entirely consumed. The second fact brought out by the test was that a fire involving 600 pounds of magnesium castings is hot enough to ignite and destroy an unsprinklered plank roof. The fire charred test pieces of 2 x 4 joists placed four, six, eight and ten feet away from the fire in the castings. A target bin containing additional magnesium castings was charred, but the fire did not ignite the contents of this target bin which was six feet away from the original fire.

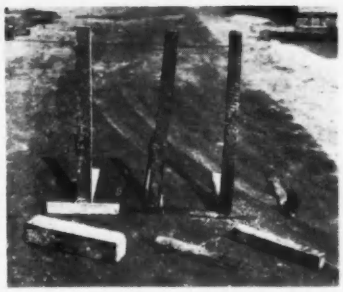
Second Test — With Sprinklers

A second test was conducted with standard automatic sprinklers in service. The weight of the castings in the main bin was increased to over 2,000 pounds. The first of the 165° automatic sprinkler heads operated in eight and three-quarter minutes after the fire in the large crib was touched off by two four-pound in-

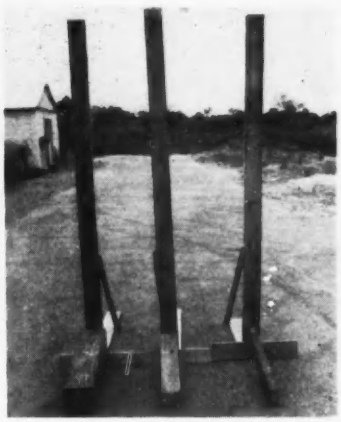
Two thousand pounds of magnesium castings in the large bin, ignited by incendiary bombs. Note target exposure bin at left.



After the fire, automatic sprinklers had protected the target bin and even some of the castings in the test fire bin were still unburned.



Charring of wood test pieces by unsprinklered magnesium fire. The uprights were 10, 8, 6, and 4 feet away from the fire (from left to right). Horizontal pieces were suspended just under the ceiling directly over the 600-pound bin.



The upright (at left) six feet distant from the sprinklered fire was blackened slightly, but not charred. All other test pieces were intact after fire in 2000 pound-bin under sprinkler protection.

cendiary bombs to obtain speedy ignition. The other sprinklers operated in quick succession thereafter.

The fire burned with increased intensity, but with only light explosions, until about twenty-two minutes after it started. As molten magnesium burned through a plank floor beneath the bin and came in contact with water on the concrete sub-floor, several explosions occurred. Some of these forced open the explosion-venting windows of the test house; all scattered bits of burning magnesium. Thereafter the temperatures lowered, but there was a moderately heavy explosion at twenty-eight minutes which opened rear doors, and a stronger explosion at thirty-seven minutes opened windows and raised the roof hatches slightly. There were occasional minor explosions up to sixty-one minutes after the start of the fire.

After about an hour, with most of the magnesium in the large bin consumed, sprinklers were shut off and fire in the relatively small amount of castings remaining was put out in about fifteen minutes by water carefully applied from a large hose stream.

Timber samples at the ceiling in this test were not even blackened, and a target bin, again six feet from the main bin, was not appreciably charred. This showed that sprinkler protection prevents the spread of a magnesium fire of this type and protects the building in which the fire occurs.

Sprinklers Recommended

It is impossible in practical fire fighting to apply water from hose streams in a manner comparable with the distribution from automatic sprinklers. In a magnesium fire, smoke and heat, spreading out through a manufacturing or storage area, would make it difficult to get within effective striking distance. Also, when water is applied violently from hose streams, resultant explosive reactions which scatter burning magnesium are likely to endanger the hose crew. It was concluded that automatic sprinklers should be provided where magnesium castings must be stored in buildings having any combustible construction or containing combustible materials. It was also apparent that all doors and windows should be opened promptly to relieve pressure from probable explosions and to prevent accumulation of unburned hydrogen because of insufficient air supply.

New Bulletin on Chlorine

SUFFOCATION, lung inflammation, or death may result from exposure to high concentrations of chlorine gas. In *Chlorine*, the Department of Labor's second bulletin on Controlling Chemical Hazards, the safe procedures when working in the presence of chlorine are outlined. Directions are given for emergency action on the detection of leaks, the proper handling and storage of the gas, and first aid measures for persons who may have inhaled the gas.

Chlorine is manufactured and transported in quantities of thousands of tons daily. Any fire company may receive a call on a blaze in locations where this greenish-yellow gas is used. Write to the U. S. Department of Labor, Division of Labor Standards, Washington, for a copy of *Chlorine*, Controlling Chemical Hazards, Series No. 2.

Fire Razes Abandoned Elevator

Acme

Press Association, Inc.

CHICAGO'S oldest elevator was destroyed by fire as it was in the process of being dismantled on October 30.

The upper picture shows how puny the powerful streams from 2-inch turret nozzles appeared, compared with the raging flames which swept more than 100 feet up into the air and could be seen by observers more than thirty miles away.

Fire speeded the task of demolition as the grain elevator was being removed to make way for another structure.

Glendale, California, Firemen Battle Big Blaze

THE cover picture this month shows a stream from the top of Glendale's aerial ladder directed on a fire which swept through a business block September 13.

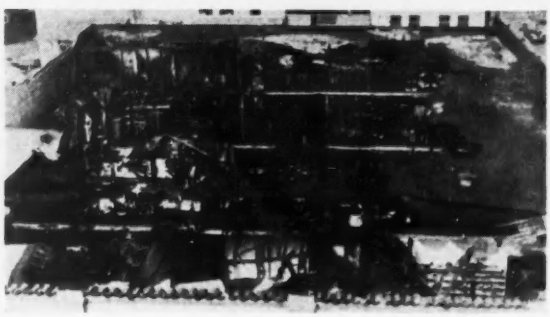
The cause of the fire was unknown. By the time occupants realized the block was on fire, the telephone wire had been burned out of service. Occupants had smelled smoke but thought it was due to the usual odors accompanying processes in the nearby newspaper office.

The entire building, housing a newspaper plant, printing office, and several stores was involved when firemen arrived. Ten large streams were required to confine the flames and protect exposures. There were no fire walls or doors to isolate the flames from the rest of the block. Light combustible partitions and an open attic and cockloft did not hinder the spread of fire.

Total losses reached $150,000.

Glendale News-Press Photos

Fire in "Fireproof" Hotel During Fire Prevention Week



EXPERIENCED fire fighters have long been aware that the fact that the word "fireproof" is painted on the side of a building does not mean that the structure is immune from a serious fire. However, it seemed most ironic that the firemen of Harrisburg, Pa., were called upon to battle a blaze on an upper floor of a "fireproof" hotel during Fire Prevention Week.

The photograph (left) shows firemen running lines of hose up over aerial ladders extended to full length and other lines through windows. Harrisburg has one of the largest volunteer organizations in the United States, supplemented by paid apparatus operators and a few paid officers.

The Fort Morgan, Colorado, Volunteer Fire Department

Member N. F. P. A.

YOU can be regaled almost any day with screamingly funny jokes about volunteer fire departments in small towns. Bucket brigades, firemen rushing madly to a burning house only to arrive when the erstwhile occupants are roasting weiners over the coals, or a fire fighter stopping to take a drink at a spouting leak in the hose have been stock material for the humorists for many years.

But not in Fort Morgan. The approximately 5,000 residents of this northeastern Colorado town take their volunteer fire department seriously, and with good reason — for the history of the department, since its founding in 1904, is one of constant improvement and real accomplishment.

A picture which hangs in a spot of honor in the present recreation room records the first annual meeting of the Fort Morgan Fire Department. There is the hose cart, the old hook and ladder, the spirited horses, and the dray wagon. Only a few of those first doughty fire fighters remain who can remember the "good old days."

Today the fire department equipment includes two fine American-LaFrance triple and quad trucks, plus an International truck, equipped with a Howe pump, used for rural runs.

Fire protection for rural districts in Morgan County dates from November 5, 1941. Since that time, firemen have answered forty-four calls in the eight-mile radius from Fort Morgan serviced by the truck, and the truck has paid for itself many times over. The truck was purchased through taxation. In 1941, when the fire district was formed, there was a one-mill levy. This was reduced the next year to one-half mill, and in the period from 1943 to 1945, further dropped to one-tenth of a mill. When a call is answered outside the fire district, a bill is tendered the farmer or rancher.

In 1940, firemen salvaged the lumber from an old city-owned rooming house, and constructed a drill tower. The cost to the city was about $300. This fall, grass has been planted on the corner where the tower stands, and firemen are getting ready to send in their bid for the 1946 firemen's convention.

Fort Morgan's fire hall was constructed in 1936–37, and the department's present membership of thirty-one men is justly proud of the building. Over the garage where the three trucks are housed and serviced is the room which serves as the meeting place and recreation center and about which the boys write home. There are chairs, blackboard, a house model

Continued on page 34

THE WAR NEVER ENDS for INDIAN FIRE PUMPS!

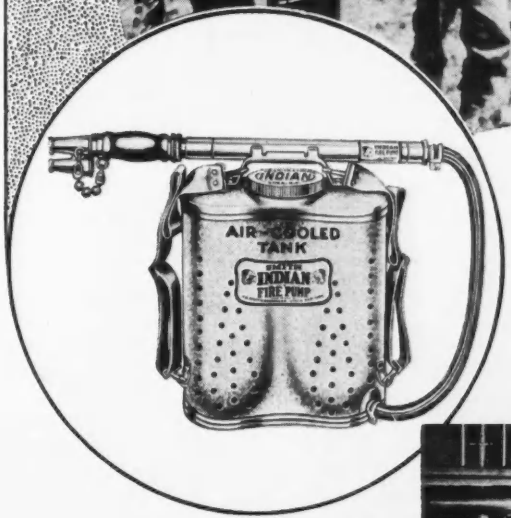


Photo above shows soldiers equipped with INDIAN FIRE PUMPS advancing to fight a large fire in Oregon.

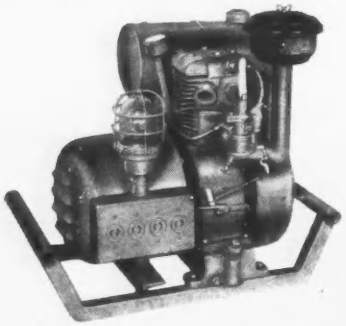
Below Truck carrying rack holds 5 gal. tank firmly in place. Buckle may be quickly locked or unfastened for instant use.

There will never be an armistice with fire. Portable INDIAN FIRE PUMPS are in the first line of defense against the Red Demon. With 5 gal. tanks slung on their backs like Army packs, firemen with INDIAN FIRE PUMPS go into action fast . . . they don't have to stop and pick up the extinguisher as they move about. Remember only clear water is used, no injurious chemicals. NOW is the time to check over your equipment and order for 1946. It is conservative to say that INDIANS alone will handle 70% of your calls.

Send for Catalog and copies of testimonials

D. B. SMITH & CO.
411 MAIN STREET, UTICA 2, N. Y.
Pacific Coast Branch
Hercules Equip. & Rubber Co., 435 Brannan St., San Francisco, Calif.

Send for Catalog



"U.S." ELECTRIC PLANTS

These rugged 1,500 watt units were designed to fire department specifications — built to meet every need. Dependable, quick-starting, 4-cycle engine. Positive lubrication. Automatic voltage regulation. No fussing to mix gasoline and oil. Compact — an easy load for two men.

Larger and smaller sizes are also available. Write for information.

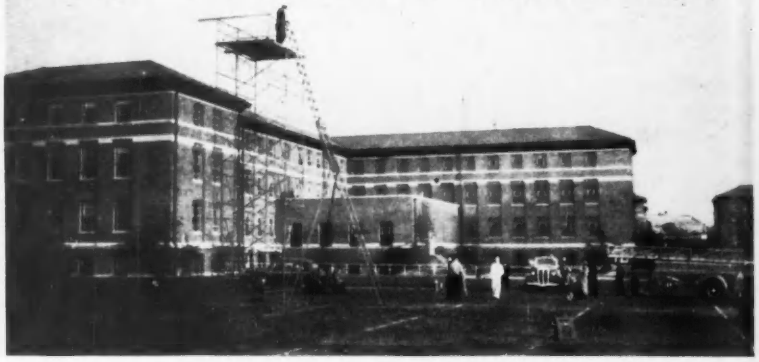
UNITED STATES MOTORS CORP.
424 NEBRASKA ST. OSHKOSH, WIS.

SEND for CATALOG VF

Special light-weight dry cell Searchlight. Requires no attention. Always ready for use. Two filament bulb. Sure-grip soft rubber handle.

THE PORTABLE LIGHT CO., INC.
216 WILLIAM ST., NEW YORK 7, N. Y.

FIRE SCHOOL REPORTS



Florida. The Fifteenth Annual Florida State Fire College was held in Miami, November 5–10.

Illinois. State Fire Marshal John H. Craig of Illinois, and vice-chairman of the N.F.P.A. Fire Marshals Section, announced that a fire school was held in Springfield, October 30 to November 2, at which state fire inspectors held classes.

Regional schools will be held in Illinois to take the place of the Illinois Fire College which has been canceled.

The 22nd Annual Fire College of the Illinois Firemen's Association, Inc., will be held at the University of Illinois, Champaign-Urbana, June 18–21, 1946.

The 56th Annual Convention was held at the city of Quincy, Ill., October 15–17. This was the first meeting of the Convention since Pearl Harbor.

Indiana. The Twelfth Annual Indiana Fire School was held at Purdue University, Lafayette, Ind., October 23–25, with an attendance of more than 300 firemen.

Richard E. Vernor, president of the N.F.P.A., challenged the firemen with the statement that "the country faces the prospect of higher fire losses before there is any possibility of reduction. Among these are the failure to recognize fire protection standards, the concentration of values, and the types of buildings which were constructed during the war period, some of which were built without sprinkler systems."

Speaking on rural fire protection, Editor Warren Y. Kimball, of VOLUNTEER FIREMAN, said "We could reduce the rural fire loss by forty or fifty million dollars a year with adequate farm protection. Through the organization of rural fire districts, some states have 50 per cent of their farms protected."

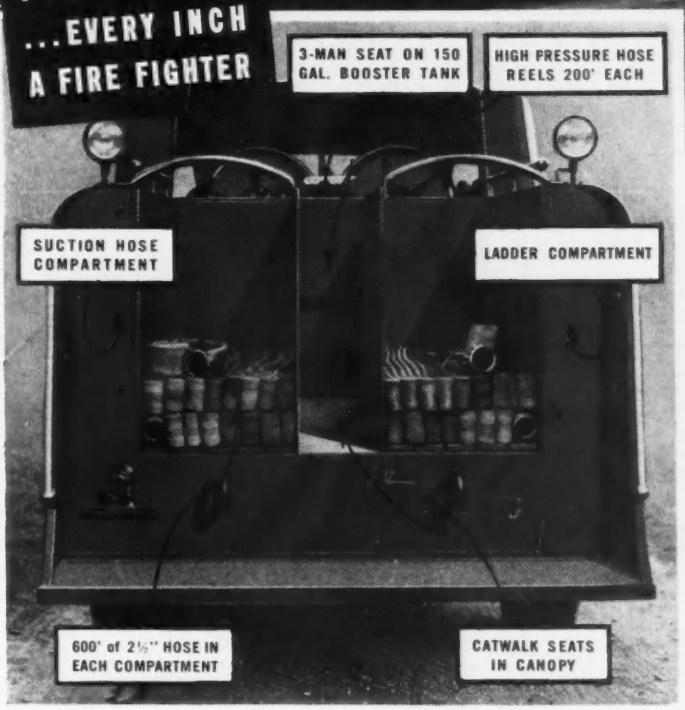
The drill tower, erected on Purdue's football practice grounds, was unique as the first built of structural steel tubing as used for contractors' scaffolding.

Firemen at the Twelfth Annual Indiana Fire School at Purdue University observed demonstrations of the correct drill procedures under state instructors Robert F. Hamm and Francis Hartman.

Lafayette and West Lafayette departments cooperated in the program and ladder equipment used was from Lafayette's new 100-foot aerial truck.

Iowa. The "Iowa Fire School News Letter" for November, edited by Robert C. Byrus, defined the steps to becoming a good firemen: (1) Establishment of human relations; (2) Rules, regulations, and discipline; (3) Fundamental principles of extinguishment — use of hand extinguishers, and forcible entry practices; (4) Building locations, occupancies, hazards, and acquaintance with the municipality; (5) Hose and nozzle practices and combinations; (6) Design, mode of operations, and tactical uses of fire equipment; (7) Building types and construction; (8) First aid and rescue practices; (9) Fire fighting practices — water relay, long lines; (10) Salvage and overhaul measures; (11) Fire fighting methods; and (12) Physical and psychological fitness.

150 hp ENGINE . . . WITH DUAL IGNITION, DUAL CARBURETORS, AND DUAL FAN BELTS
ROOM FOR SIX MEN
CANOPY TOP . . . AND OPEN IN BACK FOR QUICK EXIT TO REAR WHERE HOSE IS CARRIED
ALL CONNECTIONS AND CONTROLS ENCLOSED—TO PROTECT THEM AGAINST FREEZING, SNOW and ICE
NO RUNNING BOARD ELIMINATES MEN STANDING ON SIDES —A SAFETY FEATURE
FORE AND AFT . . . EVERY INCH A FIRE FIGHTER


3-MAN SEAT ON 150 GAL. BOOSTER TANK
HIGH PRESSURE HOSE REELS 200' EACH
SUCTION HOSE COMPARTMENT
LADDER COMPARTMENT
600' of 2½" HOSE IN EACH COMPARTMENT
CATWALK SEATS IN CANOPY

FWD ENGINEERED . . . TO GIVE YOU MORE AND BETTER FIRE-FIGHTING FEATURES

An FWD Engineered fire truck is every inch a fire-fighter! It is equipped with dependable four-wheel-drive power that gets the apparatus to the scene quickly and safely. It is built to function with the greatest fire-fighting efficiency—every piece of equipment and every control instrument conveniently located and quickly accessible. Fire chiefs and commissioners are invited to discuss the needs of their departments and communities with FWD fire truck engineers—to gain the benefit of the broad experience these engineers have gained in more than 30 years of building fire fighting apparatus.

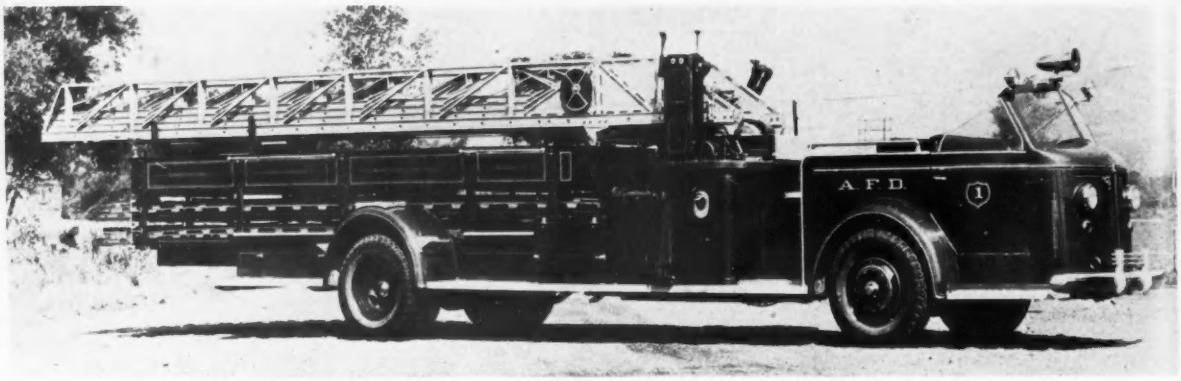
THE FOUR WHEEL DRIVE AUTO CO.

CLINTONVILLE, WISCONSIN

Canadian Factory: KITCHENER, ONTARIO

FWD

FOUR-WHEEL-DRIVE *Fire Apparatus* GETS TO FIRES FASTER AND SAFER!



This 100-foot aerial on a shorter chassis needs no rear steering wheel and has the advantage of a short turning radius.

What a Postwar Fire Engine is Like

American-LaFrance-Foamite Corporation announces pilot models with advance features suggested by members of the fire service during the war years

FOR the past four years fire chiefs and manufacturers have been talking post-war fire engine design. Changes have been discussed that should be made in present designs to improve the utility and maneuverability of the apparatus to meet the needs of the present day fire service.

During the war years, the American-LaFrance-Foamite Corporation conducted a survey of the fire departments and talked with a considerable number of people. Many good suggestions were made, which, with the reports coming back in the Design Symposium survey, gave valuable insight into the needs of the fire service. All of this information was carefully tabulated to include the recommended features. The postwar design has produced a new line of fire engines that are quite different in appearance from prewar models.

American-LaFrance has now completed a pilot model of the new pumper design and also the pilot model for the new aerial ladder truck, both shown on this page. (It might be noted that chrome plating is back as standard trim.)

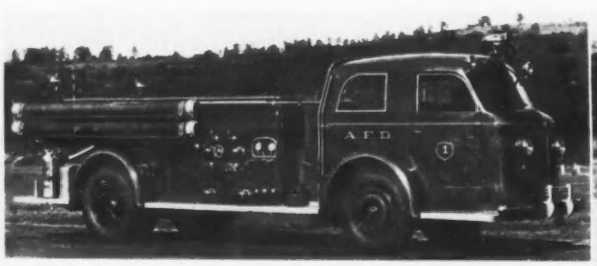
To meet the requirements which have been outlined by the fire service, this new line is designed to have the following features:

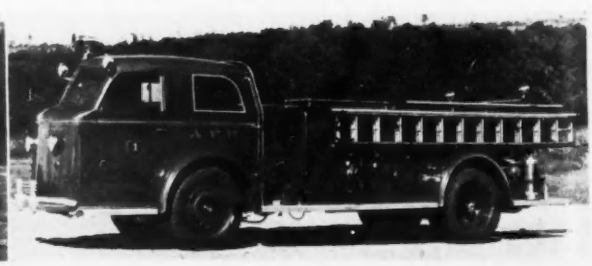
More visibility. The driver's seat has been placed in front and the front end of the vehicle narrowed to provide the very maximum of visibility.

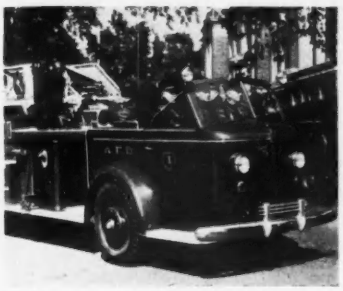
More seating capacity and better accessibility to seats. There is a seat for the driver and two men in front together with two auxiliary seats facing the back. The seats facing the rear do not have doors to interfere with entrance or exit. This takes all the men off the running boards. This seating arrangement applies to both open-type models and cab models.

Better weight distribution and easier steering. This has been ac-

Views of opposite sides of the new pumper having enclosed cab for the complete crew. Note new shorter wheelbase.







A full crew can load into the cab, not one man riding the running board, and no tiller man is needed.

complished by moving the engine back of the driver's seat and with a newly designed steering arrangement which is a great improvement over previous models. All of these features apply to both the pumpers and aerials.

On the pumpers there are the following additional features:

Shorter wheelbase to provide more maneuverability. The wheelbase has been shortened on the pumpers for capacities up to 1,000 g.p.m. to 150 inches. For pumpers with capacities of 1,000 g.p.m. up to 1,500 g.p.m., the wheelbase has been shortened to 160 inches. This is approximately twenty-four inches less than previous models of the same capacity.

More compartment space. Four enclosed compartments and one large open compartment have been provided to carry equipment. The two side compartments are 21 x 28½ x 14 inches; the two rear compartments, 14 x 14 x 23 inches; and one large compartment in front of the hose body is 45 x 68 x 12 inches.

Increased water tank capacity. The consensus favored 150-gallon water tanks as standard in place of 100-gallon. The larger capacity is now standard.

More hose body capacity. The new hose body has a capacity of 1,600 feet of 2½-inch hose, or 1,400 feet of 2½-inch hose and 400 feet of 1½-inch hose.

Space on side steps to mount equipment. The side step has been widened to permit mounting of extinguishers and other equipment and yet the steps are not wide enough for men to ride there. Thus the safety feature is maintained, together with the feature of utility.

Improved road performance. The new cab-ahead-of-engine design provides all these features with a decreased weight of approximately 1,500 pounds which will provide a marked improvement in acceleration and hill-climbing ability.

Provision for 2½-inch suction. Two suction inlets (2½-inch size) are provided with one-quarter turn valves. This permits 2½-inch lines to be laid from a hydrant to a pumper to supple-

Continued on page 24

FEDERAL ELECTRIC COMPANY, INC.

SIREN HEADQUARTERS

How

POWER

is built into this

FEDERAL

***Traffik-King* SIREN**

Oscillating Red Light; Single or Double Tone; Coaster Model

The tremendously powerful tone of Federal Traffik-King sirens demands attention over other traffic noises, clears the way. This model has a distinctive double tone; and it coasts almost two minutes after current is off. Special clutch mechanism releases rotor; coasts much longer than so-called "long roll" types, which seldom roll over 30 seconds. Electric solenoid brake on rotor stops sound instantly.

Durably built for long, dependable, maintenance-free service.

Rotors: cast aluminum, precision-machined, individually balanced. Thin, smooth blades for high efficiency.

Ports in rotor and stator accurately spaced, finished to square sharp edge; assure true pitch, powerful tone.

Motors: heavy duty; bronze or ball bearing; 6 or 12 volts.

WRITE for FREE BULLETINS

Details, illustrations, prices, on this and other FEDERAL Sirens

8717 SOUTH STATE ST., CHICAGO 19, ILL.

Midwestern Combination Suit

Rubber or Canvas

Standard in many Municipal Dept's

All Over America

You can buy either the coat or the pants separately or together. The coat is a highly serviceable garment as a result of rugged and superior quality throughout. Flexible elastic inner sleeve for wrist. Adjustable collar strap, detachable wool lining, Midwestern safety snaps, 2 outside pockets, 6-inch storm flap, and many other good features.

Bunker Pants

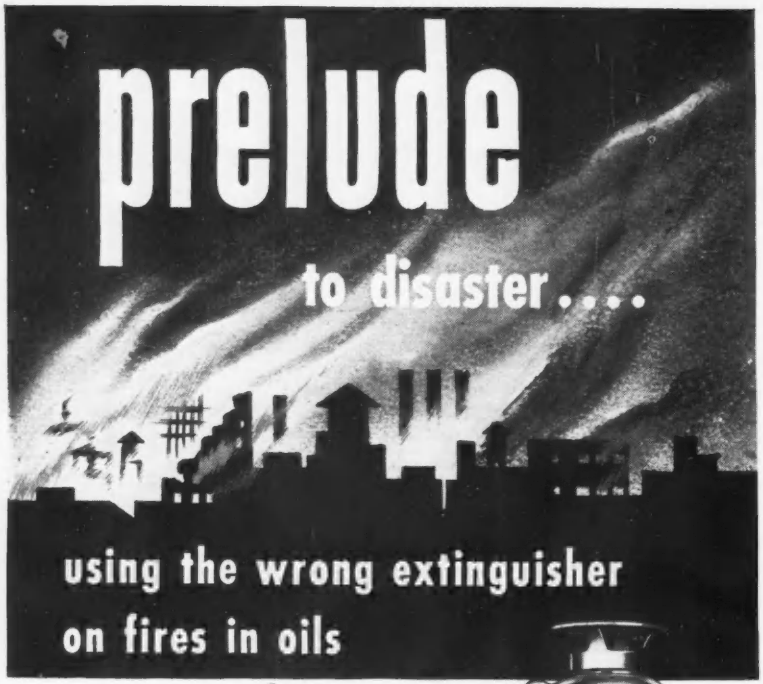
- Lining held by snap buttons
- Eight suspender buttons
- Safety snap on belt
- Wool Lining
- Reinforced adjustable belt
- Wide protecting flap
- Reinforced by rivets

Regular Fireman's Boots Available ¾ length, reinforced instep, felt linings. New synthetic rubber, not reclaimed. Write.

See your local Midwestern distributor for prices and literature, or write the factory.

MIDWESTERN MANUFACTURING CO.

MACKINAW, ILLINOIS



using the wrong extinguisher
on fires in oils

tars
waxes
paints
resins
greases
lacquer
naphtha
gasoline....

BE SAFE—STANDARDIZE ON PYRENE

Fires in flammable liquids and volatiles are tough and dangerous to combat unless you have the right equipment. Some fire extinguishing agents, excellent for other types of fires, are ineffective and tend to intensify such fires. Pyrene Foam and Vaporizing Liquid extinguishers are designed to kill such fires in their incipiency when the volume of volatiles is not large. For larger risks Pyrene Foam extinguishers on wheels and Pyrene Foam Playpipes are indicated. Both employ a flexible, fire-resistant blanket of foam that floats on liquids and clings to solids, thereby excluding all oxygen, without which a fire cannot burn. This is but one of the classes of fire for which various types of Pyrene extinguishers are specifically designed. There's Pyrene fire equipment for every hazard. That's important — and that's why you get maximum fire protection when you standardize with Pyrene. Ask your Pyrene jobber to help you with your fire problems.

BY THE WAY: WHEN DID YOU LAST TEST
THE EXTINGUISHERS IN YOUR HOME?

Pyrene Manufacturing Company
NEWARK 8, NEW JERSEY
Affiliated with the C-O-Two Fire Equipment Co.

U. S. Navy Fire School

Continued from page 11

Pittsburgh, Pa., was very recently removed from the secret list by the Navy Department. The Navy Department recommends and Firemen's Training Committee members believe that repetitive training in the use of this breathing apparatus is imperative. The equipment is lightweight, fourteen pounds with canister and though it is built with a limit of an hour per canister, it is believed that one four-pound canister of the secret chemical will give thirty minutes protection with safety. One member of the Committee stated that, "It is the slickest thing thus far developed in this line."

All security restrictions have been removed from the Navy training films. *Chemistry of Fire* is believed to be one of the finest training films ever produced. Members of the Firemen's Training Committee believe that it will prove to be of considerable value in the training of novice firemen and others in the post-war period. While the film contains considerable reference to fire fighting in ships, the rudiments of the chemistry of fire are so well portrayed that direct application of the principles to civilian firefighting problems can be made. Prints of this film are not expensive.

School of the Fire Fighter applies principally to shipboard fire fighting, though certain sections of the film might be found useful in connection with training of novice personnel in the handling of fire hose.

Rescue Breathing Apparatus is a film which demonstrates the use of the equipment and is considered to be a valuable training aid for this specialized equipment.

The two-day program was considered to be well worth the time and effort of those who were present. Many of those present at the demonstration indicated belief that the Navy methods of training might have similar effect on the efficiency of peacetime fire departments, if funds were made available to build and operate training programs in which simulated dwelling, mercantile and industrial fires are used to develop the confidence and ability of the novice firemen. Such facilities would also permit training fire companies in coordinated attacks on fires.

★

North Jersey Fire Officers' Training School

ON January 4, a course in officers' training will open at the Hawthorne Fire Company No. 1 Headquarters, Hawthorne, New Jersey. The course of fifteen lessons will be approximately $3 per man, depending on attendance. The school is open to firemen as well as officers.

IMPORTANT! NEWS — for every FIRE DEPARTMENT!

M·S·A Announces . . .

THE REVOLUTIONARY

M·S·A Chemox

SELF-GENERATING

OXYGEN BREATHING APPARATUS

Generates its own oxygen as you breathe—in the amounts you need—giving you *one hour's* protection in unbreathable air, using a replaceable chemical canister! Weighs only 13½ lbs. complete. No cylinders, high-pressure valves or fittings. Fog-free lenses. Absolutely simple to use. Proved by Navy battle service all through the war! Write now for Bulletin BM-8, and an actual demonstration.

ONE REPLACEABLE CANISTER DOES THE WHOLE JOB!

AND

THE M·S·A DEMAND-TYPE OXYGEN MASK

Built to high standards of construction and dependability, this extremely simple M.S.A. Oxygen Mask operates on the demand principle—supplying oxygen direct from refillable cylinder, for one-half to one-hour period. No special training required—facepiece has quick-disconnect fitting to conserve oxygen during standby periods—no lens fogging. Write for Bulletin BM-7. Demonstration gladly arranged.

JUST PUT IT ON—OPEN A VALVE—AND BREATHE!

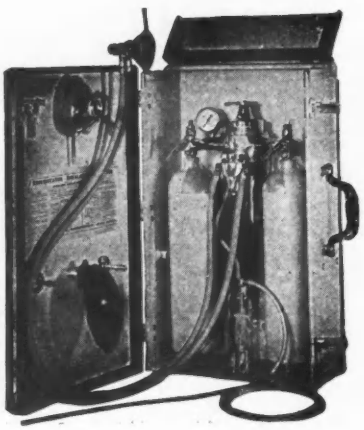
MINE SAFETY APPLIANCES COMPANY

BRADDOCK, THOMAS AND MEADE STREETS PITTSBURGH 8, PA.

District Representatives in Principal Cities

FROM
THE HOME OF THE ATOMIC BOMB
TO THE WORLD'S LARGEST
PEACETIME INDUSTRIALS

IT'S
THE E & J
RESUSCITATOR
INHALATOR
and
ASPIRATOR



During the war the E & J Resuscitator was the choice of the great war industries such as the Atomic Bomb plant in Oak Ridge, Tennessee. In peacetime it is the standard equipment in the most important industrial plants throughout the United States. A vast majority of the Fire Departments employing mechanical artificial respiration are using this modern automatic breathing machine. That is why in 1945, as in every year, E & J is tops in artificial respiration.

YOUR RESCUE SERVICE IS NOT COMPLETE WITHOUT MECHANICAL RESUSCITATION — AND THIS MEANS "E & J" IF YOU WANT THE BEST

E & J MANUFACTURING CO.
GLENDALE, CALIFORNIA
Pioneers and Specialists in Mechanical Artificial Respiration

Drexel Bldg. Philadelphia | 17 E. 42nd St. New York | 2144 N. Springfield Ave. Chicago | 581 Boylston St. Boston
530 Fernando St Pittsburgh | 3032 W. 25th Ave. Denver | 3900 Grandy Ave. Detroit | 5005 Euclid Ave. Cleveland

What a Postwar Fire Engine Is Like

Continued from page 21

ment the water tank supply or for filling the water tank.

Provision for front suction. These new models have provision for either front or rear suction at the option of the city.

On the aerial ladder, we have the following features:

Change in weight distribution to allow same size tires all around. The standard tire size is 9.00–20 all around.

Shorter turning radius. The wheelbase has remained at 220 inches, the practical minimum, but a new steering gear design has improved the turning radius. The new vehicle is capable of negotiating eighteen-foot intersecting streets, or where a sixteen-foot street intersects an eighteen-foot street, and avoids the necessity of stopping the car and backing up to make the turn. This new model negotiates narrow alleys and streets with greater facility than the tractor-drawn models.

More enclosed equipment compartments. Four new enclosed compartments have been provided for carrying equipment, two on each side of the truck.

Improved location for life net. The life net is now mounted in an extremely accessible position in the center of the truck in the ladder bank. It is no longer necessary to get down in the snow, ice and wet to remove or install the life net.

Improved engine controls for ladder operator. In this new design a starter button has been added so that if the engine stalls, the aerial ladder operator simply has to press a button to restart the engine.

An additional electric button control has been added for the throttle so that the operator can automatically increase the engine speeds without going to the instrument panel in the driver's compartment.

A third switch has been added to control the lights for all gauges at the operating pedestal.

American-LaFrance has built many more new features into their new cab — ahead-of-engine series, but here it is only possible to present the general design and most outstanding improvements.

●

How Do You Select Your Chief?

Continued from page 8

depths of inefficiency and indifference. Many of these chiefs appointed without popular support have felt it their duty to return as much money as possible to the town treasury instead of putting the full appropriation into things that would better the fire service.

In recent years a number of volunteer

departments have taken a progressive step that will help to insure having a chief who is outstanding as a trained fireman, as well as the man having the personality and leadership ability which gets votes at the annual election. This has been the inclusion of the provision in the by-laws that any man to be eligible for officer rank must have completed state fire school training in addition to the basic drills and training given to all new members.

One other problem that faces many volunteer fire departments is the role to be taken by men who have completed their term as chief and are still of active fire fighting age. In many departments there is a separate business organization headed by a president and other officers who are usually former members of the company. In other cases, ex-chiefs are made head of special committees having interesting assignments that will best use their talents and experience. In general the tendency is to retain a good chief for a period of several years. He remains in office as long as he shows a progressive attitude and is constantly able to improve the efficiency of the department, even though this means the fellows down the line will have to wait a little longer to wear the five trumpet insignia.

Bombings Set Great Fires in German Cities

Continued from page 7

forces which were well organized, trained, and equipped. The same was true of the national railroads and of the national post office department which controlled telephone and telegraph communications as well as postal services. In each instance, close cooperation was maintained with local civilian defense authorities, not only for the exchange of warnings and information, but for the rendering of assistance when it was required. It is noteworthy that mutual aid was not rendered between factory and factory, but between factory and municipality. That procedure was contrary to the accepted routine in other phases of mutual aid. Within the municipality, for example, coordinate agencies mutually supported each other. Likewise, higher political and military divisions came to each other's assistance when required. Factory fire-fighting forces, however, were auxiliaries of the municipal fire department of the nearest city, and were generally so well organized that they were able to lend more aid to the city than they required from it."

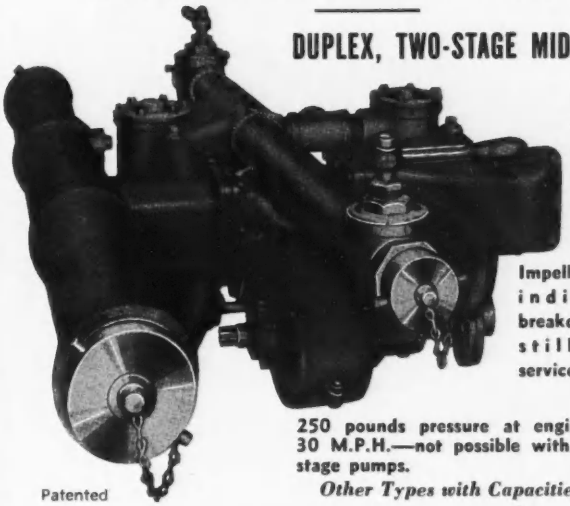
Barton-American Front Mounted

AMERICAN-MARSH PUMPS

Barton-American Midship

FIRE APPARATUS CENTRIFUGAL PUMPS

DUPLEX, TWO-STAGE MIDSHIP MOUNTED



Patented

High Pressure performance entirely unaffected when unit used to pump gritty water.

•

Impellers mounted on individual shafts—breakdown of one pump still leaves one for service.

•

250 pounds pressure at engine speed equal to 30 M.P.H.—not possible with conventional two-stage pumps.

Other Types with Capacities to 750 G.P.M.

•

WRITE FOR BULLETIN 8731F

•

AMERCAN-MARSH PUMPS, INC., Battle Creek, Michigan

Pumps — and pumps only — since 1873

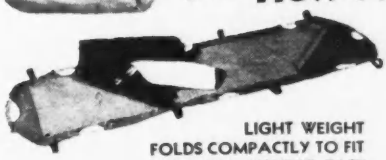
The Modern All-Purpose Fire-Fighting Tool!

The **HUXBAR**

This effective new tool was invented by a practical fire captain. His thirty years experience in fighting fires and catastrophies convinced him that the basic safety tools were clumsy and inadequate. From this knowledge he developed the **HUXBAR**, one tool that would efficiently perform the work of five. Modern in design and practical in use the **HUXBAR** is useful in any and all emergencies.

Constructed of the finest nickel chromium alloy steel, it has the tensile strength of 175,000 lbs. per square inch, strength without brittleness . . . and carries an unconditional guarantee. The **HUXBAR** not only fights and controls fires and emergencies but many users have found it adaptable to their special requirements. Act now to equip your plant, safety squad, fire or police department with the **HUXBAR.** Price . . . **$15.00.**

The **HUX-A-MAT**



LIGHT WEIGHT
FOLDS COMPACTLY TO FIT
28" x 8" CARRYING CASE

The compactness and light weight of the **HUX-A-MAT** "Fold-N-Bag" stretcher makes it easy to carry and a simple matter to reach the injured wherever they are. The injured are protected from the elements by waterproof canvas, a rubber sheet, a wool blanket, and a linen sheet. Write today for further details on this dependable new-type stretcher. Price . . . **$27.50** without equipment . . . **$33.50** complete.

HUXEL INDUSTRIES • *Safety & Fire Appliances*

1000-1002 KEITH BLDG. - - - CINCINNATI, OHIO

FOLDING CHAIRS

for your MEETINGS and SOCIAL EVENTS

COMFORTABLE and DURABLE

Can be made to pay for themselves by rental to other groups

Strongly constructed of selected hardwood and reinforced with steel. Low price and prompt delivery. Write for details today.

J. P. REDINGTON & CO.

Dept. 25, Scranton 2, Pa.

Fyr - Fyter equipment has proven its value in preventing small fires from becoming disastrous through the loss of life and property. Recent catastrophic fires with terrific loss of life emphasizes the urgent need of fire protection. A complete line of Underwriters Laboratories Labeled Fire Extinguishers.

HELP SAVE LIVES AND PROPERTY

Get Fyr-Fyters for safety's sake. We advise and serve manufacturing production plants, public institutions, homes, garages, trucks, autos, etc., immediately. Write us today regarding Fyr-Fyter equipment for your own protection.

THE FYR-FYTER CO.

DAYTON 1, DEPT. 20-11 OHIO

BUY BONDS **Fyr-Fyter**

Attic fire before water was applied. As flames were bursting from the windows, the firemen swung the 200 g.p.m. waterfog nozzle past the windows and extinguished the flames instantly.

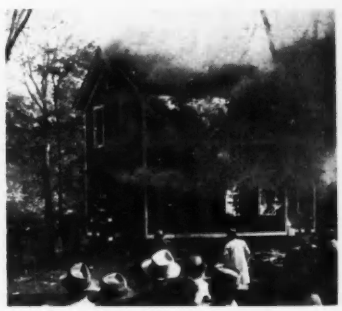
HOUSE FIRE YIELDS TO WATERFOG

Spectacular fire tests at Hamden, Connecticut, demonstration of the Rockwood waterfog nozzle, October 11.

MANY volunteer fire departments have been of the opinion that fog streams on 1½-inch lines would be of considerable value in controlling Class A fires (ordinary combustibles) in rural buildings and places where water supplies are limited. Considerable factual information in support of this belief was evidenced on October 11, as a result of interesting fire tests conducted at Hamden, Conn., with the joint cooperation of Hamden and New Haven fire departments.

A six-room frame house, that was to be demolished to permit expansion of the Trommer's brewery, was made available to fire department officials for a series of test fires. Each test fire was started with a quantity of kindling, well primed with gasoline. All the window glass had been removed so that there was no ventilation problem and burning was vigorous and intense.

Chief Heinz, of the New Haven Fire Department, noted as a leading exponent of training for all firemen in the correct use of fog equipment, served as master of ceremonies at the public address system.



Two type SG-40 Rockwood waterfog nozzles snuffed out fire involving the first and second floors of the six-room dwelling used in the demonstration as fast as firemen could walk into the building.

New Haven drillmaster Battalion Chief Thomas Collins led members of the Hamden department in actual extinguishing operations. Chief Raymond C. Spencer, of Hamden, was host to the gathering.

The first test demonstrated the possibility of controlling a serious cellar fire

Continued on page 28

Watching the demonstration are, left background, Hamden's Chief Raymond C. Spencer, host to the visiting fire officials; left foreground, Chief Paul P. Heinz of New Haven, Conn., master of ceremonies for the occasion; and far right, in fire coat and helmet, Battalion Chief Thomas Collins, New Haven, president of the Connecticut Drillmasters' Association, who led the fire fighting and extinguishment tests.

C-O-TWO FIRE-KILLERS

as modern as tomorrow

Modern production methods operating in high gear with 'round-the-clock protection against interruption or damage by fire . . . that's modern industry teamed up with modern fire protection! C-O-TWO fire extinguishing systems stand ready for instantaneous attack on fires, killing them on the spot with dry non-damaging, non-conduction sub-zero carbon dioxide gas. Plant hazards cease being potential danger spots and constant fire threats when men of vision protect lives and property with C-O-TWO equipment. Hand portables with the famous Squeez-Grip valve, fast mobile wheeled units, hose reel and built-in systems of the pressure operated type all engineered to give industry modern fire protection. Our Army, Navy and Maritime Commission are large users of C-O-TWO carbon dioxide fire extinguishing equipment which is also listed and approved by Underwriters' Laboratories and Factory Mutuals. C-O-TWO is fast, easy to operate, safe, non-deteriorating and causes no damage to materials or equipment during or after its operation. Write for information.

C-O-TWO Kills Fire . . . Saves Lives
It's Safer . . . It's Faster . . . It's Modern

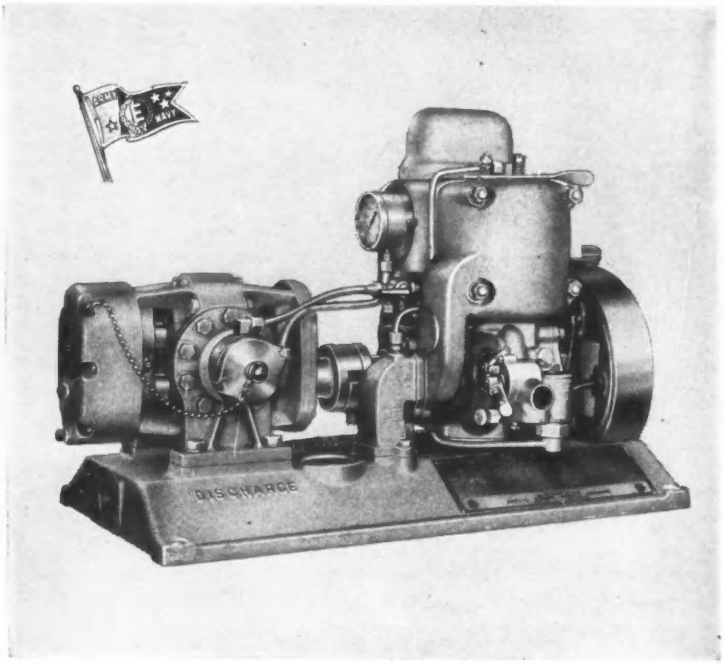
C-O-TWO FIRE EQUIPMENT COMPANY

NEWARK 1, NEW JERSEY

C-O-TWO

ARMY E NAVY

TYPE "Y"
Portable Pumper



For weight and size, Pacific Marine Type "Y" is the most powerful portable pumper yet built. Base 24 x 12 inches; height 13 inches; net weight complete, ready to operate, 70 pounds.

CAPACITY

Pressure	100	125	150	175	200	225
Gallons per Minute	63	59	53	46	40	20

We are now able to make prompt delivery of Type "Y" and Type "NY" Pumpers, accessories and general fire-fighting equipment.

FIRE-FIGHTING EQUIPMENT DIVISION of the

PACIFIC MARINE SUPPLY COMPANY

SEATTLE, Washington

House Fire Yields to Waterfog

Continued from page 26

with a Rockwood waterfog nozzle attached to a 1-inch booster line. A large area of the cellar was filled with flames which were extending up the stairway to the first floor. The hose crew made the attack down the stairs behind a curtain of waterfog from the booster line, quickly snuffing out the fire.

The purpose of this demonstration was to see whether a booster size fog stream would be adequate in areas lacking larger water supplies, although in this demonstration, the booster line was backed up with a 1½-inch fog nozzle which was not used.

In the second test, an equally serious cellar fire was extinguished in seven seconds by the cellar pipe made from four 50 g.p.m. OCD-type spray heads.

Following the cellar fire, there were several tests of major Class A fires involving areas on the first and second floors. These fires were of such magnitude that they would have been difficult or impossible to control with straight streams before major damage would have resulted to the building.

Using type SG-40 Rockwood waterfog nozzle on 1½-inch lines, these fires went out as fast as the hose crews could walk into the building. Spectators were amazed to see that flame in adjoining rooms died out before the full force of the water-fog was turned into all areas. Waterfog made it impossible for combustion to continue.

A later test involved a fire started in the attic or cockloft under the roof. This fire was also well primed with gasoline and allowed to burn until flames were issuing from both front and rear windows. Then a 200 g.p.m. waterfog nozzle attached to the ladder pipe on a New Haven aerial ladder was swung past the window. The flames were extinguished in a matter of seconds.

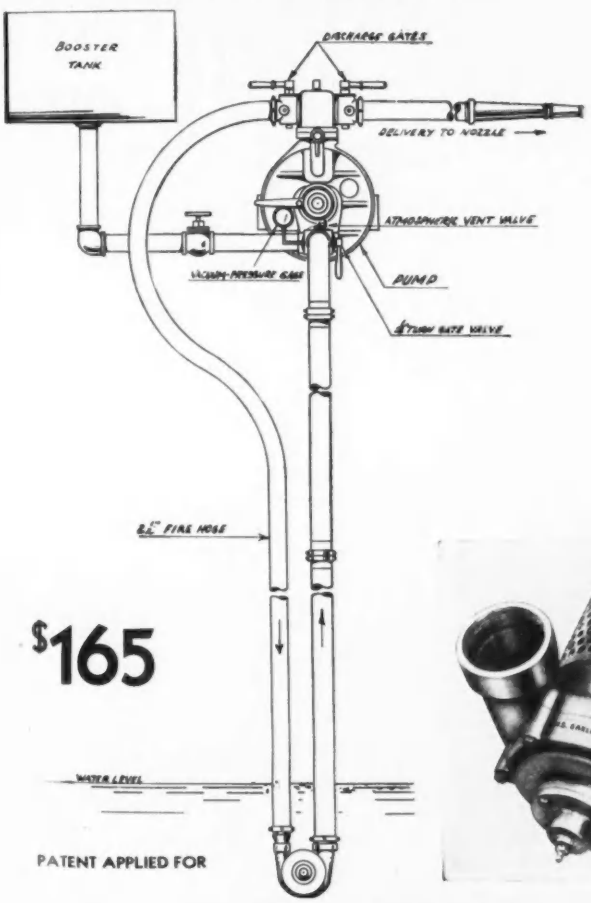
In the final demonstration, the ladder pipe was moved back and to a higher elevation and the entire house was set afire with quantities of gasoline poured into wall opening, into the cellar, etc. When a major fire was well under way Chief Heinz showed that such a fire could be knocked down quickly, by ordering the large waterfog nozzle on the ladder pipe turned on full for a few seconds. This immediately deadened the fire to the point where it could have been mopped up with 1½-inch hand lines.

Following the fire tests, the Editor of VOLUNTEER FIREMEN asked Chief Heinz for an opinion on the value of the 1½-inch fog lines supplied by booster tanks as found in many rural and suburban fire departments. Chief Heinz replied, "I certainly would recommend the 1½-inch line with the SG-40 nozzle as stand-

Continued on page 32

LIFTS WATER 100 FEET

208 GALLONS PER MINUTE!
73 FEET ABOVE and 165 FEET
DISTANT FROM THE RIVER!



$165

PATENT APPLIED FOR

CHAMPION Hi-Lift Suction Booster

One of the greatest steps forward in fire fighting since the advent of motorized apparatus.

Makes use of inaccessible water supplies such as hard to get at lakes, streams, ponds, either beyond vertical lift of pumps (20 ft. average lifting capacity) or beyond horizontal reach of roads.

Will lift water vertically in excess of 100 feet and horizontally from a distance hundreds of feet away. Sounds fantastic but the sensational performance of the Hi-Lift Suction Booster has been proved over and over by exhaustive tests.

The actual photograph at the left shows a Hi-Lift in action with a Champion 500 Gallon Pumper, that carries a 200 gallon water tank, charging the Unit (from the tank supply) with 150 lb. pressure and 152 gallon input and the Hi-Lift is lifting 208 gallons per minute for fire fighting. This performance with truck 73 feet above and 165 feet away from the river.

208 gallons of water per minute for fire fighting from an unlimited supply otherwise inaccessible to the largest and most expensive pumper ever built.

Thousands of Fire Departments have large, inexhaustible yet inaccessible water supplies available that from now on may be put to good use with a Champion Hi-Lift.

You can use the Champion Hi-Lift Suction Booster with any make of fire truck having a booster tank of 50 gallon capacity or more.

A 200 gallon tank is adequate for charging the Hi-Lift Booster through 250 feet of 2½-inch fire hose as in the illustration above where the truck is 73 feet above and 165 feet away from the water.

The booster tank automatically refills and is shut off immediately after the Booster is placed in operation.

Complete with easy instructions and performance data so that you can make your own 30 DAY FREE TRIAL TEST and prove to yourself that the Hi-Lift Suction Booster is a good investment in fire fighting efficiency.

W. S. DARLEY & CO.

ESTABLISHED 1908
CHICAGO 12, ILL.

THE Massachusetts Charitable Fire Society

FIRE!

Through the narrow, crowded streets of Boston a terrorized cry rings forth as it has done in many cities — but in none more fearfully than in the bustling New England metropolis of the eighteenth century. The crowded, narrow streets, the wooden houses, the utterly inadequate protection offered in those days against destruction by flames, bring one an understanding of why fire was dreaded even more in "The Hub" than in most other cities. Indeed, the newspapers and addresses and the writings of the prominent citizens of the 18th and even the 17th century all reflect the constant fear of fire which gripped the inhabitants.

Accordingly, in order to protect their property from fire the citizens enrolled in societies or clubs in some respects resembling the voluntary fire departments of the present day. The first of these was inaugurated in 1718, and by 1796 there were about 24 such societies with average memberships of about 30 each.

Other measures taken in Boston included the establishment of "fire wards" — who, as the statute creating this post worded it, "being provided with staffs, 5 feet long, colored red, and supplemented by bright brass spires 6 inches long, should, upon the breaking out of fires, repair thereto, and with staff in hand, require assistance for putting out the fire, removing goods from the burning building and guarding the same. . . ." It is perhaps not surprising under these conditions that severe fires occurred.

The Massachusetts Charitable Fire Society was one of the first of the many philanthropic associations for which Boston is famous. In giving the background of the organization, Henry H. Sprague, its secretary in 1893, wrote:

"Hardly a year passed without considerable losses from fire, and no less than twenty fires had occurred previous to 1795. In 1653 there was an extensive fire destroying many houses and killing three children. In 1678 a fire destroyed forty-five dwellings, and there was another three years later. In the year 1711 a conflagration which consumed much of what is now State Street and Washington Street, the Town House, and the First Meeting House, and rendered one hundred and ten families homeless, became pre-eminent as the 'great fire,' a term which it yielded in 1760 to a fire which consumed one hundred and seventy-four dwelling houses, one hundred and seventy-five warehouses, shops and other buildings and property in all amounting, by careful computation, to 53,334 pounds sterling."

As no local insurance existed when the Massachusetts Charitable Fire Society came into being, those stricken by fire had to depend upon public kindness.

In 1785 a petition to the town relating to the establishment of a fire insurance company was referred to the board of fire wards and turned down. Accordingly, the preparation of the public mind for the acceptance of fire insurance was one of the principal purposes of the Massachusetts Charitable Fire Society. The history of the Society is best described in a quotation from a historical pamphlet which it issued in 1904:

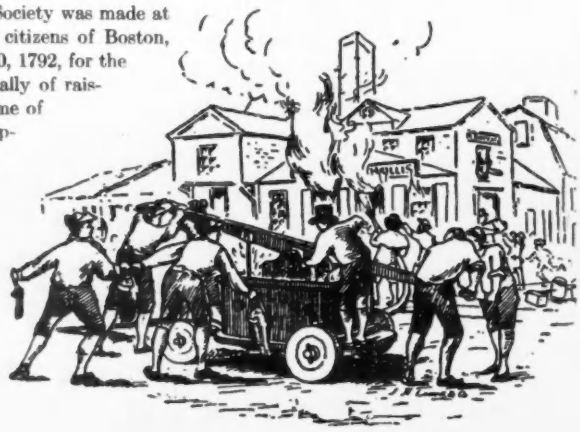
"The first movement towards the establishment of this Society was made at a public meeting of citizens of Boston, held on November 20, 1792, for the purpose more especially of raising a fund, the income of which should be applied in order not only to relieve the sufferings arising from the ravages of fire, but also to inaugurate measures of lessening the extent of the evil. It was determined to establish a society, and a constitution for its government was adopted on January 21, 1793. Subsequent meetings were held for the purpose of arousing an interest in the object and of increasing the number of its members, which soon came to embrace the most prominent inhabitants of the town. The Society was incorporated on June 29, 1794, as the Massachusetts Charitable Fire Society, 'for the purpose of relieving such as may suffer by fire, and of stimulating genius to useful discoveries tending to secure the lives and property of their fellowmen from destruction by that element.'

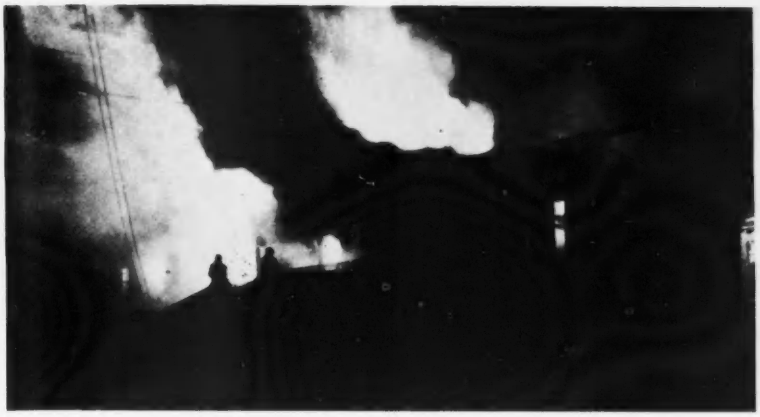
"The Society became at once, and continued for a period of years, one of the most prominent public organizations of Boston. It raised and devoted considerable sums to the relief of individual sufferers by fire, at a period when such sufferings were acute. By public addresses and concerted efforts it suggested and promoted inventions, measures, and legislation, by which the recurrence of the great conflagrations was largely prevented, and fire ceased to be the personal terror of the inhabitants.

"The Society continued its public activity until, by the enactment of building laws and the introduction of better building materials and of improved appliances and apparatus for extinguishing fires, and especially by the general establishment of fire insurance, the need of its broader work ceased to be so urgently demanded.

"In later years the Society has continued to afford from the income of its funds relief to sufferers from fire, and especially to supply to workmen the tools and other appliances necessary to their livelihood, which have been destroyed. The funds of the Society have been so well administered that, although sums equal in amount to those bestowed in the earlier days have been so dispensed, considerable sums have been donated each year to more general charities."

This article is extracted from "News from Home," by permission of the Home Insurance Co., Kenneth H. Dunshee, editor.





Six Die as Two-Story Frame Hotel Burns in Fort Bragg, California

AT 1:50 A.M., on September 26, a woman in a hotel across the street notified telephone central that the lobby of the Oaks Hotel in Fort Bragg, California, was a mass of flames. The operator immediately turned in an alarm of fire by ringing the town siren. The firemen on duty at the fire station responded immediately with three or four men and a Seagrave 750 g.p.m. pumper.

Occupants of the hotel, a two-story wooden building, were jumping from the windows. Flames were roaring up from the lobby into the upper halls and through the roof. One fireman went up a ladder to get a man out of a room when an explosion in the bar blew the ladder and fireman back into the street.

Two other pieces of equipment, an American-LaFrance 400 g.p.m. pumper and a Chevrolet with OCD pump responded with twenty-seven firemen who laid three 2½-inch lines siamesed into six 1½-inch lines, and three straight 2½-inch lines, or a total of nine streams. It was half an hour before the fire was sufficiently cooled to permit firemen to climb ladders to the roof.

The latest opinion is that an old bum, sleeping in the lobby, accidentally set the place on fire and left without turning in an alarm. No one was on duty at the hotel desk at night.

Six persons lost their lives in the fire, burned beyond recognition. Ten others were injured, three with broken backs caused from jumping out second story windows. Others suffered broken arms and legs. The financial loss was about $50,000.

Engineer M. Kennedy Bliss, of the Board of Fire Underwriters of the Pacific reporting on the fire observed that two-story buildings do not come under California State regulations that require fire escapes or other emergency exits for taller buildings. The Oaks Hotel did not have any fire escapes and it is indicated that the occupants had the alternative of jump or burn.

Fire escapes, however, would not have saved the lives of those who burned to death. They were trapped in their rooms, not awakened until it was too late. Many had reached their doors, to die holding on to the knob. They failed to heed the basic tenet of fire safety — "Always try a

Continued on page 36

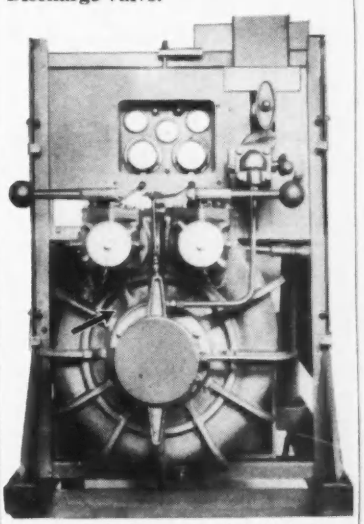
HOW TO IMPROVE YOUR OCD PUMPER

Owners of 500-GPM HALE wartime emergency OCD Pumping Units will be interested to know that they can now obtain copper, bronze, and stainless steel parts to replace certain steel and cast-iron parts which were originally used because of government regulations.

For example, with a Hale "OCD Replacement Parts Kit" you can now install new indirect Cooler with copper tubing in place of present Cooler with steel tubing; bronze Discharge Valves and Priming Valve are available to replace cast-iron; stainless steel Pump Shafts are available in place of cold-rolled steel.

These and other improvements over mandatory war-time parts can now be made at reasonable cost and with very little work. The change-over can be done locally by any first-class mechanic.

Write today for full information about the HALE "OCD Replacement Parts Kit." Details will be sent to you immediately without obligation. *Be sure to give the manufacturer's name on the OCD unit and the serial number on the pump.* Serial number is on the flange directly behind the left-hand Discharge Valve.



Above: Hale Pump on Hale OCD Unit

NOTE: Chrysler-built Hale Pumps in OCD Pumpers may be identified by the word "HALE" cast in pump body at location indicated by arrow in illustration above. Hale-built pumps do NOT have word "HALE" cast in body of pump.

HALE FIRE PUMP CO.

Conshohocken, Pa.

Fire Pumps in All Standard Capacities

6 of 70 MASTERLIGHTS

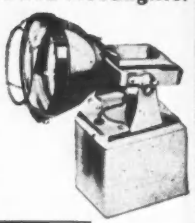
MASTER★LIGHTS FOR EVERY NEED

The best in colored oscillating lights for your motor equipment.

Type 06 ← Clears Both Sides of Street

Featherweight, Mile Range, Rechargeable Hand Searchlights and Floodlights.

Type WS → Uses Small Rechargeable Battery Mile Range

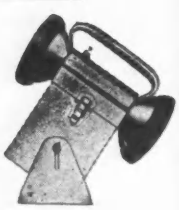


Type Dul ← Emergency Floodlight For Theatres, Road Houses, etc.

Types F5 and Super-6 → Dry and Rechargeable Units. ¾ Mile Range

Type T ← Roof mounted Officers Searchlight 360°

Type T&T → Two-Way. Hand and Red Warning Light



CARPENTER MFG. CO.

168 MASTER ★ LIGHT ★ BLDG.

BOSTON 45, MASS.

FATAL FRATERNITY HOUSE FIRE

Acme

FIRE transformed a football victory celebration into a scene of death and destruction at Rutgers University, New Brunswick, N. J., on October 21.

Two students and a girl died in the Sigma Alpha Mu fraternity house when they were trapped by flames spreading from the first floor. Six other persons were injured.

Fire Prevention Contest

Continued from page 13

"In 1942 we responded to 188 fire alarms. In 1943, to 193 fire alarms. Throughout 1944 and 1945 we have given increasing attention to fire prevention work as a regular part of fire department activities.

"During 1944 we had only 100 alarms and the total up to Nov. 1945 is 112 alarms. This, in spite of increasing population and traffic, with considerable new business and residential construction.

"Although La Plata has only about 500 population our fire company covers the entire county, with a total of risks from other small business centers and farm areas amounting to those of a city of about 20,000 population.

"Our fire prevention policy recognizes that distant buildings are difficult to save and that the least we can do in return for support of remote property owners is to show them how to reduce chances of having a fire.

"Probably the most effective work along this line is accomplished by personal visits to property owners (out of town) in which they are offered the fire department's service in checking up on their construction and occupancy hazards. The inspector tells about the common causes of local fires, remarks that the fire company has available all the latest Underwriters and National Fire Protection Association codes, tells what first aid fire fighting appliances have been approved and found most effective locally. He explains the importance of turning in an alarm immediately and exactly how that should be done and what happens in La Plata when an alarm is turned in.

"It might be added that these visits certainly do promote good will toward the fire department, having resulted, in one case in receipt of a check for $100 as a contribution toward fire department work, as well as a couple of smaller checks. No solicitation or hint was given that this might be desirable.

"Fire Prevention Week was preceded by articles in the county papers explaining the importance of the week. During the week fire prevention talks were made at five elementary and two high schools. N.F.P.A. leaflets were distributed at end at each talk. Also, fire prevention posters and leaflets were left at twenty-seven rural stores and post offices, and in each case the proprietor was talked to about this material and urged to call attention to it."

●

House Fire Yields to Waterfog

Continued from page 28

ard for the general run of fires. New Haven is 100 per cent equipped with this nozzle and we extinguish about 95 per cent of our fires with 1½-inch lines with excellent results. It was on the suggestion of one of the spectators that we used the 1-inch nozzle on the first cellar fire, however, we did back up this line with 1½-inch, expecting the smaller nozzle to discharge insufficient fog.

"My recommendations to the fire fighters in the rural areas would be to have available, both the 1-inch and 1½-inch line and to use them according to circumstances."

FAST ATTACK! YOU CAN MOVE IN FAST WITH FMC HIGH-PRESSURE FOG!

No Delay! You are Ready to "Go" the Moment You Arrive at the Fire

The FMC High-Pressure Fog Fire Fighter carries its own water supply and complete fire fighting equipment. So — you are ready for instant action.

There are two fog guns of 30 gallons each at 600 lbs. or more nozzle pressure. The flow of these guns can be adjusted to produce any type of fog formation that may be needed — from a wide, dense fog pattern to a straight power stream.

It's the Pressure and the Pump!

The FMC High-Pressure Pump — built by Bean — packs the needed punch to produce and maintain *800 lbs. pump pressure*— better than *600 lbs. nozzle pressure.*

The high-pressure provides a combination of high velocity and finely atomized water — just what you need to *blast, cool* and *smother* flame.

One gallon of this steam-like water fog, properly used, has fire quenching possibilities many times that of low pressure water.

Restrictions Lifted!

Investigate this revolutionary method of fire fighting. It's not a bit too early to start plans for the modernization of your department.

FMC High-Pressure Fog Fire Fighters may now be purchased for civilian use. Orders should be placed promptly to insure early delivery.

YOU CAN MODERNIZE — NOW!

Illustration shows latest type Standard FMC Fog Fire Fighter.

FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO. 726 HAZEL ST., LANSING 4, MICH. : BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

IN YOUR 1946 BUDGET SPECIFY

CAIRNS

FIREMEN'S EQUIPMENT

For 110 years, CAIRNS EQUIPMENT has been "regulation" in most fire departments, both in America and abroad. In your 1946 purchases, insist upon the QUALITY for which CAIRNS stands.

Helmets in leather, aluminum, or FLINT-FLEX (plastic), in all sizes and styles, with the CAIRNS SHOCK-PROOF CUSHION LINING; warm turn-out clothing, rubber coats and boots, face shields, regulation caps; loose-leaf fire record books, secretary's record books, certificates, forms, etc.

Write for Catalog 131

CAIRNS & BROTHER

Outfitters to Firemen Since 1836

444 LAFAYETTE STREET, NEW YORK 3

CIRCUL-AIR

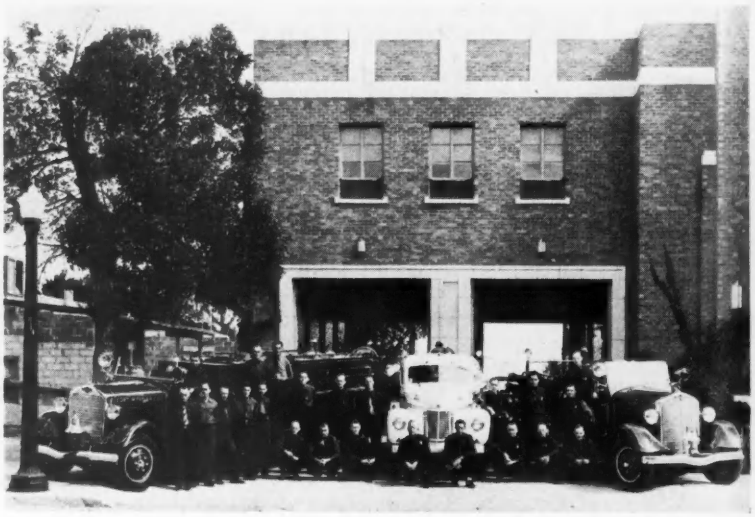
FIRE HOSE DRYER

- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries

THE CIRCUL-AIR CORPORATION

6339 East Palmer Avenue

DETROIT 11, ... MICHIGAN



Fort Morgan, Colorado

Continued from page 17

showing defective wiring, and other demonstration materials. Billiard tables and two poker tables constructed by Assistant Chief George Peterson, whose living quarters are in the fire hall, invite firemen bent on a couple of hours of profitably-spent leisure time.

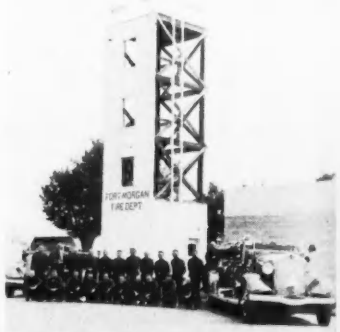
In the south wing of the building is a six-man dormitory which has served as home to seventeen separate firemen. "That was before the girls and the war got to work on 'em," moans Chief Andy Dozzi, a garage mechanic during working hours.

A plaque at the west end of the recreation room bears the names of twelve firemen who have answered the call to the colors. Four of these men have returned to civilian life, and the other eight, in their various camps, still cherish memories of those department days, the firemen's ball, and the certificate of honor presented by the department to "Our Fire Fighters now in the Armed Forces of Our Beloved Country."

Fire Prevention Week this year was a busy time as usual for these volunteer firemen. Inspection of business houses, special drills, and overseeing fire drills at the city's schools were some of the events on the calendar.

Results of the school drills showed that pupils, teachers and other townspeople have become fire prevention conscious. Much of the credit for that attitude goes to firemen who have arranged inspections by state officials, special lectures, and assembly programs in years past.

The junior-senior high school of approximately 800 students empties in 2 minutes, 38 seconds; one grade school of 525 pupils in 1 minute, 42 seconds; and two other elementary schools of approximately 200 enrollment in 42 and 34 seconds, respectively.



Often during fire prevention week, teachers bring groups of students on a field trip to the Fire Hall. Some few are rumored to have made the descent from the dormitory to first floor, via the shining pole.

From 1942 until the spring of 1944, the Fire Hall was the training center for Civilian Defense. Sixty graduates in standard first aid and thirty in the advanced course passed through those portals. And, during the war years, when the department was often shorthanded, some of these men served as auxiliary members.

For the past two years, the department has been a member of the State Vocational Training department.

The department is now equipped for rescue work with a resuscitator and inhalator — and at least one Fort Morgan youngster is riding his kiddie car on Fort Morgan sidewalks because an alert, quick thinking fireman was on hand during his first dark and difficult hour on earth.

CUSTOM—
—BUILT

DESIGNED BY YOU AND BUILT
TO YOUR SPECIFICATIONS

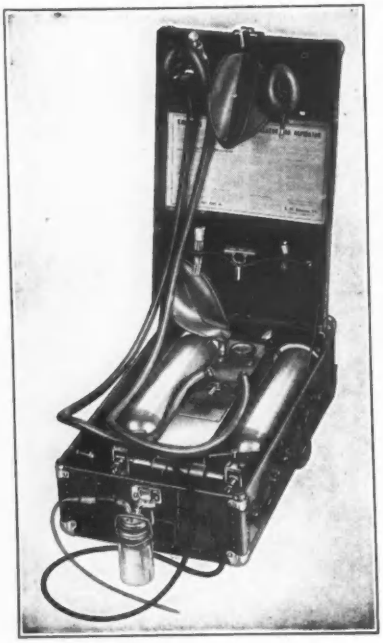
OREN FIRE APPARATUS COMPANY

1201-9 West Salem Avenue
ROANOKE, VIRGINIA

WRITE FOR INFORMATION

When Life is at Stake

Insist on the



EMERSON RESUSCITATOR

Years of experience in the hands of leading Fire Departments and research in the medical laboratory have demonstrated the superiority of this life-saving machine. A demonstration in your own fire house will convince you this is true.

•

Write for literature or more information.

J. H. EMERSON CO.
24 Cottage Park Ave.,
Cambridge, Mass.
Representatives in Principal Cities

Membership Report

TWENTY new companies became members of the N.F.P.A. Volunteer Firemen's Section this month. The grand total of member departments at the end of 1945 stands at 1,247.

Basalt Rock Co., Napa, Calif.
Verno Beach Volunteer Fire Dept., Verno Beach, Fla.
Hamburg Fire Team, Hamburg, Iowa
Sergeant Bluff Fire Dept., Sergeant Bluff, Iowa
Sheldon Volunteer Fire Dept., Sheldon, Iowa
St. Marys Fire Dept., St. Marys, Kansas
Fort Washington, Veterans Administration Facility, Fort Washington, Md.
Wellesley Fire Dept., Wellesley, Mass.
Grosse Pointe Park Fire Dept., Grosse Point Park, Mich.
Arbor Hose Co. No. 1, Arbor, Dunellen, N. J.
Mohawk Carpet Mills, Inc., Amsterdam, N. Y.
Pine Hill Hose Co. No. 5, Inc., Cheektowaga, Buffalo, N. Y.
Long Beach Volunteer Fire Dept., Long Beach, N. Y.
Boston Fire Co., Inc., Boston, N. Y.
Woodstock Fire Co. No. 1, Woodstock, N. Y.
Roseburg Fire Dept., Roseburg, Ore.
Bethel Township Hose Co. No. 1, Boothwyn, Pa.
Midland Volunteer Fire Dept., Midland, So. D.
Okotoks Fire Dept., Okotoks, Alta., Can.
Christina Lake Volunteer Fire Dept., Christina Lake, B. C., Can.

Six Die as Hotel Burns

Continued from page 31

door for heat and keep it braced securely against the pressure of hot air before opening it cautiously."

Engineer Bliss further points out that the heavy loss of life in this case was not due to excessive areas, lack of fire escapes, or poor construction but to late discovery of the fire. He concludes, "Persons owning fire traps, as all two-story or higher wooden buildings are for people asleep, should be required by law to provide automatic sprinklers, automatic fire alarm, or at least watchman clock. They owe a minimum of safety to their guests."

HONOR YOUR SERVICE MEN

WITH A PERMANENT Roll of Honor

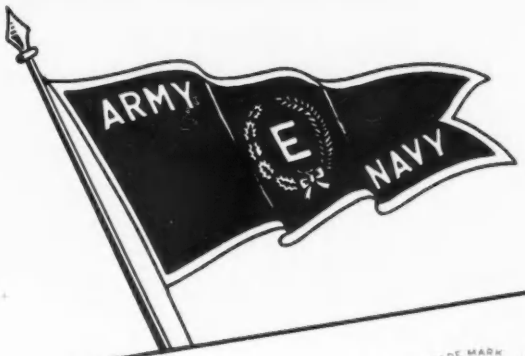
— a lasting tribute to your boys now returning from service. Have it on the wall when they come home. Beautiful walnut plaque with Eagle and victory torches. Individual names in silver on gold-bordered permanent name plates. Sizes for any number of names. Write today for illustrated price list.

U. S. FLAGS

— now available in any size desired. All types of materials. Also flag sets, standards, etc. Tear out this ad and write for free price list today.

REGALIA MFG. CO.
Dept. 82, Rock Island, Illinois

"You're a fine one, Bill, you're supposed to drive the ladder truck"



TRADE MARK
GAMEWELL
REG. U.S. PAT. OFF.

Contributions
TO THE WAR EFFORT

The necessity for manufacturing under Directives and AAA Priorities — protective signaling systems for the Atomic Bomb Plants, the urgency being so great that one complete system was shipped by airplane — many highly specialized devices for war purposes — and more than 500 emergency signaling systems for military properties — we hope will explain to our regular customers why our productive capacity has been temporarily diverted from civilian requirements.

THE GAMEWELL COMPANY
Newton Upper Falls, Massachusetts

Index to Volunteer Firemen, Volume 12 — 1945

	Month	Page
Airplane Crash Fires. Empire State Building	Sept. 5, Oct.	27
Entry Technique	Aug.	23
Fighting	Feb.	12
Fire Fighter's Helmet	Feb.	22
Wright Field, Ohio	June	11
Alarms: Delayed; Edit	Jan.	5
False; Edit	May	5
Alaska, Ketchikan	Oct. 18, Nov.	6
Apartment House Fire	April	12
Armstrong, Chief W. Lewis		
"Suggestions for a Pumper Drill"	July	14
Axes, Fire; Edit	Jan.	5
Baby Home Fire; Edit	Mar.	5
Backman, Capt. H. W.		
"More from the Italian Fire Front"	May	12
Barn Fire	July	20
Bombs, Aerial Fire; Edit	June	5
on Germany	Dec.	6
Bond, Horatio		
"Bombings Set Great Fires in German Cities"	Dec.	6
Booster Pump Capacity	Nov.	26
British: Amphibious Fire Service	Feb.	9
Fire Service	May	18
Higher the Dizzier, The	Feb.	20
Bus Fire	Sept.	15
Busiest Company	Feb. 23, April	26
California		
Fort Bragg Hotel Fire	Dec.	31
Glendale Block Burns	Dec.	16
Huntington Beach Oil Fire	Feb.	28
Mount Shasta	June	6
Salinas Hotel Fire	July	8
Canada		
Campbell River, B. C.	June	14
Port Alberni, B. C., Block Fire	April	10
Lakefield, Ont., Chief Honored	April	16
Point Edward, Ont., Steamship Fire	Sept.	10
Port Arthur, Ont., Dust Explosion	Oct.	30
St. Catharines, Ont., Old Apparatus	Sept.	14
Regina, Sask., Truck	April	14
Church Fire; Edit	Feb.	5
Citrus By-Products Plant Fire	Oct.	12
Clark, Evans		
"Fire Fighting Calls for High Strategy"	Jan.	10
Clark, Horace B.		
"Lots of Water from a Little Two-Pump Engine"	Jan.	8
Clean-up Campaign	April	20
Cleaning Fluids, Flammable; Edit	April	5
Colorado, Fort Morgan, Vol. Fire Dep't.	Dec.	17
Communications: Airplane to Fire Fighters	May	13
Fire Alarm Telegraph; Edit	Nov.	5
Fire Bell in Home	June	16
Central Alarm Office	April	28
Radio Frequencies	April	28
Radiotelephone Wave Lengths	Jan.	20
Three-way FM Radio	Sept. 16, Oct.	24
Conflagration Map	Feb.	16
Conflagrations: Alton Bay, N. H.	Oct.	8
Mahanoy City, Pa.	Aug.	18
Connecticut		
Drillmasters' Field Tryouts	Nov.	21
Hamden Waterfog Demonstration	Dec.	26
Russell Fire Company	April	7
Training Center	Nov.	12
Woodbridge, photo	April	9
Downs, Dorothy		
"Women Wage War on Fire"	May	14
Drag Design	Aug.	16
Electrical Inspections by Firemen	Mar.	12
Farm Fire Protection	Aug.	8
In Vermont	Sept.	26
Federal Works Agency	Aug.	13
Fetters, Chief Joseph I.		
"Planning Your Fire Prevention Week Inspection"	Sept.	9
Field Tryouts	Nov.	21
Fire: Apparatus	April 14, Sept. 14, Dec.	20
Company Inventory	April	26
Department Instructors' Conference	Mar.	6
Loss Analysis	Dec.	5
Ropes	Jan.	23
Station Plans, Funds for	Aug.	13
Zone Map	April 23, June	7
Fire Prevention Week	Sept.	7
Contest	Dec.	12
In Dallas, Texas	Nov.	13
Firemen, Services Rendered by	April	14
Firemen's Meet	Oct.	11
First Aid and Rescue	April 13, Aug.	6
First Aid Fire Appliances: Foam	Aug.	14
Soda-acid	July	12
Vaporizing Liquid	Nov.	28
Flameproofing Fabrics	Jan.	16
Flammable Liquids Fire	Oct.	22, 24
Florida		
Dunedin Citrus Plant Fire	Oct.	12
Miami Oil Fire	Sept.	15
Richmond Naval Training Station	Oct.	11
Fog: High Pressure	Sept.	30
Nozzle	Oct. 13, Dec.	26
Waterfog	Dec.	26
Forest Fires: Backfires	Oct.	27
Oregon	Sept.	11
Sparks in Gutters	April	16
Stop That Fire	Mar.	10
Warning	July	11
Gasoline: Fire in Railroad Tank Car	Jan.	6
Octane	June	17
Priority for Volunteers	May	23
Georgia, Atlanta, Metal Worker Plant Fire	Dec.	9
Giese, Henry		
"Rural Fire Control"	Aug.	8
Grain Elevator: Chicago's Oldest Burns	Dec.	9
Dust Explosion in	Oct.	30
Model Used for Instruction	Aug.	26
Rosenbaum Bros. Burned: Edit	Jan.	5
Hall, Willard		
"Stop That Fire"	Mar.	10
Hangar Fire	Oct.	11
Heinz, Chief Paul P.		
"High Tension Wires and Blazing Gasoline"	Jan.	6
Helicopter	Sept.	22
Historical: Fire Fighting in New York City a Century Ago	April	11
Great Patent Office Fire of 1877	Jan.	12
U. S. Capitol Fires	Feb.	10
Looking Backward	Sept.	14
Hose: Drying Rack	April	14
1½-inch	Feb. 23, June 8, Nov. 14, Dec.	26
Securing Lines; Edit	July	5
Trailers	April	13
Hotel Fires: Fort Bragg, Calif	Dec.	31
Harrisburgh, Pa.	Dec.	16
Lima, Ohio	April	12
Lynn, Mass.	Jan.	23
Muskegon, Mich.	Mar.	26
Niagara Falls, N. Y.	Nov.	15
Salinas, Calif.	July	8
Huffman, R. S.		
"Trained Fire Departments are Essential to Industry"	Nov.	10
Indiana, Gas City, photo	Aug.	7
Industrial Fire Brigades	Nov.	10
Inspection by Firemen	Sept.	9
Italian Fire Front	May	12
Judge, New York City Fireman Becomes	June	17
Junior Fire Departments	May	8
Kansas, Topeka Township	May	16
Kelly, Jr., L. L.		
"Fire Safety in the Oak Ridge Schools"	Nov.	6
Kimball, Warren Y.		
"Connecticut Firemen to Learn By Doing	Nov.	12
"Fire Fighting in the Atomic Age"	Nov.	7
"Fire Safety where Crowds Congregate"	Oct.	6
"Good Fire Fighting for Volunteer Departments"	June	12
"How Would You Fight This Fire?"	July	18
"Using Larger Tips with 1½-Inch Hose"	Nov.	14
"What Would You Tell Our Allies about the American Firemen?"	Feb.	6
Lacquer Plant Fire	April	10
Lighting Unit, Portable	July	6
Lumber Yard Fire	June	18
Lund, Leonard		
"Minnesota Drill Team Competitions"	May	6
"Second Guessing"	Oct.	16
MacDaniel, R. D.		
"Should Firemen Make Electrical Inspections"	Mar.	12
Magnesium Test Fires	Dec.	14
Maine		
Augusta Baby Home Fire	Mar.	5
Camden, photo	Aug.	6
Rockland, photo	Aug.	6
Maryland		
Arnold, photo	Aug.	7
Cabin John Park, photo	May	6
College Park Training Center	Aug.	10
Kensington Elections	Aug.	5
Pikesville	July	6
Silver Spring Fire	Dec.	9
Massachusetts		
Lynn Fire; Edit	Aug.	5
Lynn Hotel Fire	Jan.	23
Wallum Lake Firemen's Meet	Oct.	11
Memorial to Firemen	May	23
Michigan		
Detroit	June 11, Oct.	22
Muskegon	Mar.	26
Minnesota Drill Team Competitions	May	6
N.F.P.A.: Annual Meeting Postponed	April	25
Directors Meet	Aug.	17
Nebraska		
Scottsbluff, Theatre Fire	May	11
Hebron, photo	July	10
New Hampshire, Alton Bay Conflagration	Oct.	8
New Jersey		
Clifton Factory Fire	July	9
Hoffmann-LaRoche, photo	Nov.	11
Morristown Group Fire	Oct.	10
Salem Co. Firemen's Assoc.	April	26
West Paterson, photo	Aug.	7
New York		
Empire State Building Crash Fire	Sept. 5, Oct.	27
Northville Drag Design	Aug.	16
Syracuse Foundry Fire	July	9
Tarrytown FM Radio	Sept. 16, Oct.	24
Wyoming Co. Fire School	Jan.	15
Nozzle, Monitor	Jan.	14
Ohio		
Lima Hotel Fire	April	12
Mingo Junction, Photo	Aug.	23
Wright Field, Dayton, Crash Fire and Helmet	Aug. June	23 11
Oil Fires: Huntington Beach, Calif	Feb.	28
Miami, Fla.	Sept.	15
Oregon, Portland Shipyard Fire	Oct.	22
Overhauling after a Fire	April	24
Panic	Oct.	6
Pennsylvania		
Bellefonte, photo	April	8
Edge Hill	Nov.	8
Harrisburgh Hotel Fire	Dec.	16
Lemoyne School Fire: Edit	May	5
Lewistown, photo	Aug.	7
Mahanoy City Conflagration	Aug.	18
New Kensington, photo	Aug.	6
Philadelphia Fires	July 8, Nov.	17
Pumper: Drill	July	14
Dual	Jan.	8
Races	June	7
Two-pump Unit	June	14
Railroad Fire Protection	Jan. 6, Sept.	28
Record Forms for Fire Departments	Sept.	25
Rhode Island, Block Island	Mar.	22
Roof Work	Nov.	27
Salvage Covers, Drying	July	20
School Fires; Edit	May	5
Schools, Fire Safety in Oak Ridge, Tenn.	Nov.	6
Shipyard Fire	Oct.	22
Skating Rink Fire: Edit	July	5
Steamship *Hamonic* Fire	Sept.	10
Store Fires: Joliet, Ill	July	8
Kalamazoo, Mich.	June	11
Sulphur Candles, Fire Hazard of	Nov.	26
Surplus Properties; Edit	Jan. 5, Oct.	5
Tennessee, Oak Ridge School Fire Program	Nov.	6
Texts: *Ammonia*	Oct.	32
Chlorine	Dec.	15
Fire Service Today, The	April	20
Airplane Crash Fire Fighting	Mar.	16
Fire Service Training, Unit VII	Feb.	19
Flame Facts	July	25
Industrial Fire Protection	Sept.	27
Instructors' Manual	Aug.	17
Part 6A, Practical Firemanship (British)	Oct.	28
Theatre Fires: Independence, Iowa: Edit	June	5
Covington, Ky.	Jan.	23
Scottsbluff, Nebr.	May	11
Toast to the Firemen	Jan.	22
Trailers, Hose	April	13
Training in Fire Fighting: Air Forces	Mar.	9
Army	Feb.	8
Centers	Aug. 10, Nov.	12
Coast Guard Fire Fighters	Mar.	14
Navy Fire School	Dec.	10
New Mexico	April	16
Report, Firemen's	Feb.	6
Stillwater, Okla.	April	14
Underwriters Rating Board	Jan.	15
Unusual Fires: "Fatal Leap, A"	Jan.	23
"Fireproof Hotel Burns"	Dec.	16
"Goose Feathers"	Jan.	22
"Hats Off to Chief Newman"	Feb.	22
"Not an N.F.P.A. Member	Nov.	27
"Wolf; Wolf"	Jan.	30
Utah, Bingham Canyon	Aug.	12
Valve, Shut-off	Oct.	28
Ventilation, A Lesson in	Feb.	14
Volunteer Firemen: Elections	Aug. 5, Dec.	8
Equipment	June	9
Extra-curricular Activities	July	10
Good Fire Fighting for	June	12
Pay	April 6, May	8
Kill Blaze in Seven Minutes after Paid Men Stage 4-Hour Losing Battle	Oct.	24
Walls, falling	Nov.	17
Washington		
Cle Elum	June	15
Lowell	Oct.	27
Tacoma Apartment Fire	April	12
Welding	Aug.	16
West Virginia		
General Machinery Ordnance Corp. Fire Dep't. photo	Nov.	10
South Parkersburg, photo	Aug.	23
Winter Driving	Jan.	24
Wisconsin		
Grand Army Home Fire Dep't.	June	14
Nekoosa Shut-off Valve	Oct.	28
Women's Auxiliaries	Mar. 11, May 14, Aug.	24

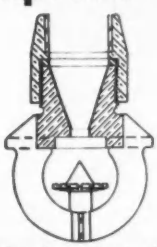
Low Velocity Spray for Stubborn Fires in Light Flammable Liquids. | High Velocity Spray for Fires in Heavier Oils. | Solid Stream for Mopping-Up Operations.

"KILLS OIL FIRES FAST"

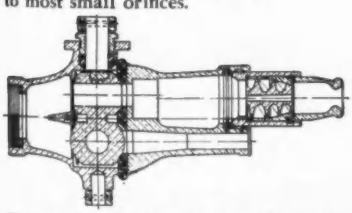
(UNDERWRITERS' APPROVED)

Improved 3-Purpose Fire-Hose Nozzle by GRINNELL

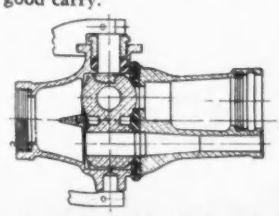
FLAMEBUSTER



Low velocity tip with single large orifice breaks down the stream into finely divided spray–avoids clogging common to most small orifices.



Patented high velocity tip with simplified scroll design delivers spray in a well-filled conical discharge pattern with good carry.



Water passage of solid stream through nozzle is substantially straightaway, assuring low friction loss.

As an effective supplement to its complete range of fixed systems of fire protection, Grinnell offers this portable nozzle. It permits quick selection of water in the form best suited for putting out fire, whatever its nature.

1 Low Velocity Spray... for extinguishing stubborn fires in highly flammable liquids. Projected in a wide cone by the unique Grinnell spray tip on a 4' to 10' applicator. The unbrella-like cone of evenly distributed spray, applied directly over blaze, puts out fire with minimum water consumption.

2 High Velocity Spray... for extinguishing fires in heavier oils by emulsifying the blazing oils with a driving spray of water, rendering it incapable of burning. Protects firemen approaching blaze.

3 Solid Stream... for mopping-up operations on wood or similar materials ignited by oil fires and burning beyond the range of spray.

DESCRIPTIVE FOLDER is available without obligation. Write to Grinnell Co., Inc., Providence 1, R. I. Branch offices in principal cities.

GRINNELL

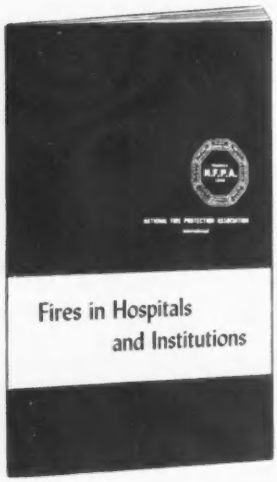
ENGINEERED PROTECTION

AUTOMATIC SPRINKLERS • [illegible] • [illegible] • FLAMEBUSTER

NEW FIRE RECORD PUBLISHED BY NFPA

Proves Need for Modern Fire Protection in Hospitals and Institutions

The tragic record of what has happened when flames struck out against life and property in hospitals and similar institutions is graphically presented in a new fire record just published by the National Fire Protection Association. This attractive 48-page illustrated booklet contains detailed reports of many major disasters and other fires and includes several statistical tables. These tables show



the relative frequency of the various fire causes, where fires start in hospitals, the effect of sprinklers, the types of building construction involved, and an analysis of losses.

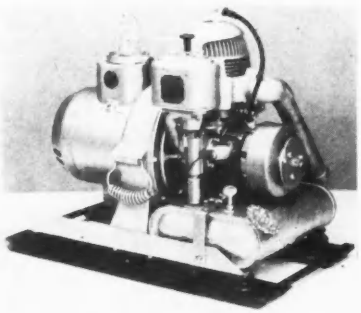
The booklet provides fire chiefs and fire prevention inspectors with a wealth of information which should prove to be effective "ammunition" in obtaining ready compliance with fire protection recommendations by local hospital and institution officials.

A copy of the booklet has been sent without charge to all N.F.P.A. members as a supplement to the October "Quarterly." Additional copies may be obtained at 50 cents each. As a fire prevention measure, why not place a copy in the hands of each hospital and institution superintendent in your community? Order a few copies of "Fires in Hospitals and Institutions" today.

MANUFACTURERS' ANNOUNCEMENTS

Homelight Announces New Lightweight Generators

Production of two new gasoline engine-driven generators is announced by the Homelight Corp., Port Chester, N. Y. Designed as a portable power source for floodlights, electric tools, radio or amplifying equipment, these units can be moved quickly to any location. They are well-suited to fire department needs. The Model 21D, a 2000-watt, 120-volt



"Homelite Portable Generator Unit Model 21D"

D.C. generator weighs only 105 pounds and the Model 21A, an 1800-watt, 115-volt A.C. generator, weighs only 115 pounds.

Incorporating new design features developed for the Army and Navy and tested under combat conditions, these units are reported to be sturdy and dependable. The use of aluminum alloys for all large castings has permitted an increase in output without sacrificing portability. Descriptive literature is available from the manufacturer on request.

●

M.S.A. Announces Two New Types of Oxygen Breathing Apparatus

The Mine Safety Appliances Co., of Pittsburgh, Pa., has just released details about two important developments in the field of respiratory protection.

First: The Chemox Oxygen Breathing Apparatus which generates its own oxygen and gives one hour's protection in unbreathable atmospheres. This is the equipment referred to in the article appearing on pages 10–11.

Second: The M.S.A. Demand-Type Oxygen Apparatus which supplies oxygen direct to the wearer from a refillable cylinder carried on the back.

Both types of equipment are described in the advertisement on page 23. Get complete details from the manufacturer. Descriptive literature will be sent on request without obligation.

Darley's New Suction Booster Expands Rural Water Supplies

Inaccessible water supplies such as ponds and streams beyond the vertical lift of pumping apparatus may be made useful for fire fighting by the "Champion Hi-Lift Suction Booster" recently placed on the market by W. S. Darley & Co., of Chicago 12, Illinois. According to the manufacturer this remarkable device "will lift water vertically in excess of 100 feet and horizontally from a distance hundreds of feet away."

By pumping a relatively small volume of water into the "Booster" a larger volume is picked up and raised to the pumper. The "Booster" can be used with any pumper having a booster tank capacity of 50 gallons or more. This supply is used to charge the hose supplying the unit, but the booster tank is automatically refilled immediately after the "Booster" goes into operation.

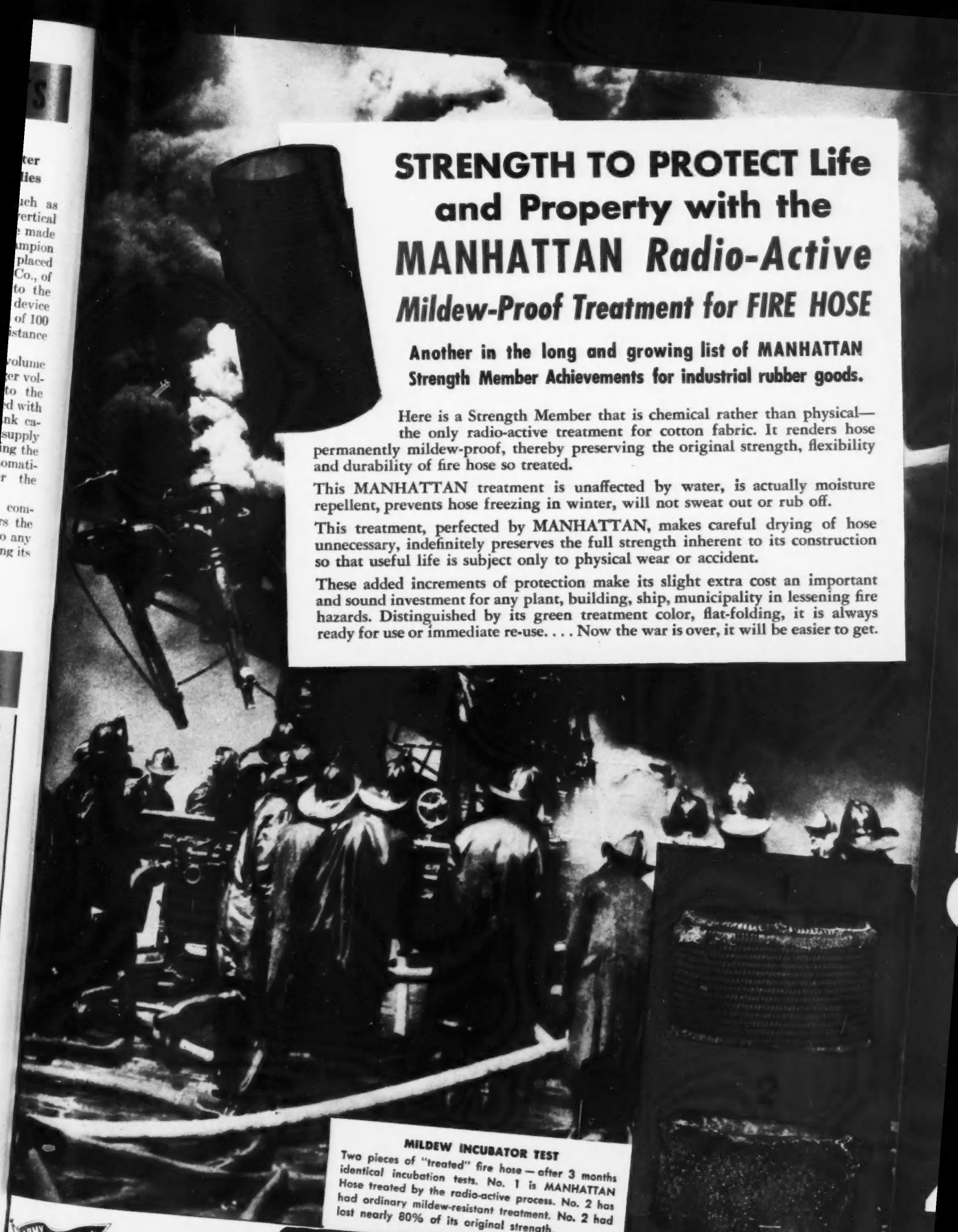
The manufacturer will furnish complete details on request and offers the "Booster" for a 30-day free trial to any fire company interested in conducting its own performance tests.

●

INDEX TO ADVERTISERS

Akron Brass Manufacturing Co.	42
American-Marsh Pumps, Inc.	25
John Bean Manufacturing Co.	33
Cairns & Brother	34
Carpenter Manufacturing Co.	32
The Circul-air Corp.	34
C-O-Two Fire Equipment Co.	27
W. S. Darley & Co.	29
E. & J. Manufacturing Co.	24
J. H. Emerson Co.	36
Federal Electric Co., Inc.	21
Four-Wheel-Drive Auto Co.	19
The Fyr-Fyter Co.	26
The Gamewell Co.	37
General Detroit Corp.	44
Grinnell Co., Inc.	39
Hale Fire Pump Co.	31
Walter Huxel Industries	25
Walter Kidde & Co., Inc.	43
Mack Manufacturing Corp.	2
Manhattan Rubber Mfg. Div.	41
Midwestern Manufacturing Co.	21
Mine Safety Appliances Co.	23
National Fire Protection Assn.	40
National Foam System, Inc.	4
Oren Fire Apparatus Co.	35
Pacific Marine Supply Co.	28
The Portable Light Co., Inc.	18
Pyrene Manufacturing Co.	22
J. P. Redington & Co.	26
Regalia Manufacturing Co.	36
D. B. Smith & Co.	17
U. S. Motors Corp.	18
Ward La France Truck Div.	3

When you write to advertisers, please mention VOLUNTEER FIREMEN



STRENGTH TO PROTECT Life and Property with the MANHATTAN *Radio-Active*

Mildew-Proof Treatment for FIRE HOSE

Another in the long and growing list of MANHATTAN Strength Member Achievements for industrial rubber goods.

Here is a Strength Member that is chemical rather than physical—the only radio-active treatment for cotton fabric. It renders hose permanently mildew-proof, thereby preserving the original strength, flexibility and durability of fire hose so treated.

This MANHATTAN treatment is unaffected by water, is actually moisture repellent, prevents hose freezing in winter, will not sweat out or rub off.

This treatment, perfected by MANHATTAN, makes careful drying of hose unnecessary, indefinitely preserves the full strength inherent to its construction so that useful life is subject only to physical wear or accident.

These added increments of protection make its slight extra cost an important and sound investment for any plant, building, ship, municipality in lessening fire hazards. Distinguished by its green treatment color, flat-folding, it is always ready for use or immediate re-use. . . . Now the war is over, it will be easier to get.

MILDEW INCUBATOR TEST

Two pieces of "treated" fire hose — after 3 months identical incubation tests. No. 1 is MANHATTAN Hose treated by the radio-active process. No. 2 has had ordinary mildew-resistant treatment. No. 2 had lost nearly 80% of its original strength.

ARMY E NAVY

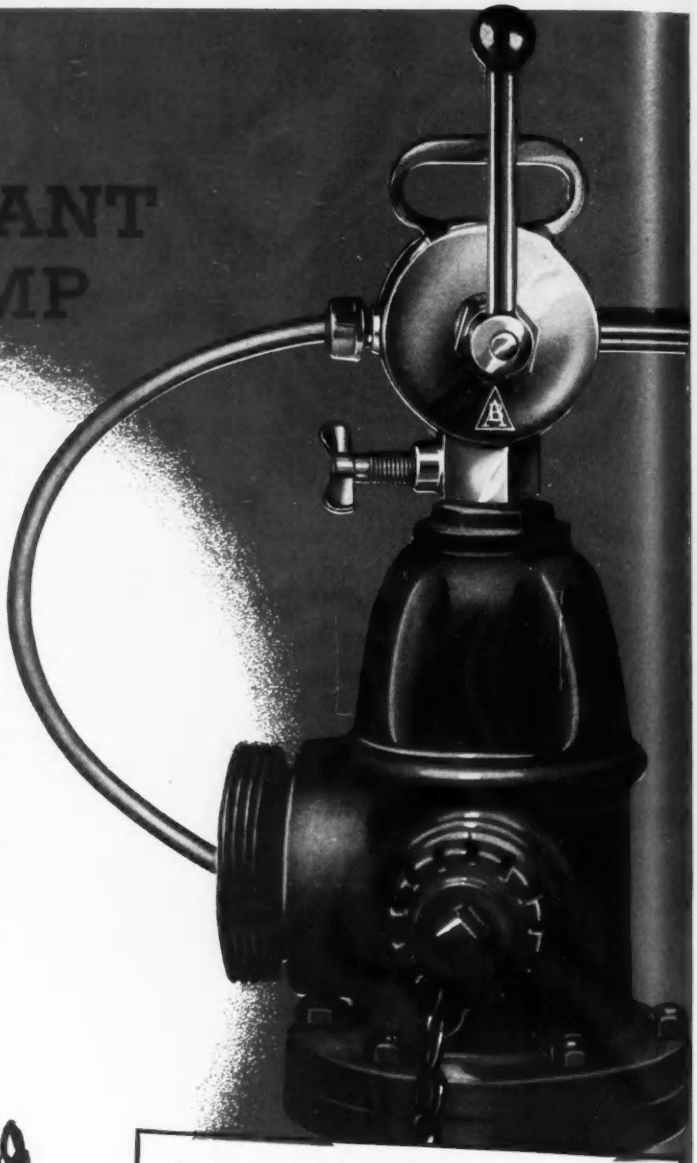
RM

THE MANHATTAN RUBBER MANUFACTURING DIVISION

of RAYBESTOS-MANHATTAN, INC.

EXECUTIVE OFFICES and FACTORIES . . . PASSAIC, NEW JERSEY

AKRON HYDRANT PUMP



Without water fire fighting equipment is worthless.

Hydrant drains clog — hydrants freeze.

Result is needless loss of life and property.

Guard against this fire hydrant hazard by using the Akron Hydrant Pump.

AKRON BRASS MFG. COMPANY, Inc.
WOOSTER, OHIO

Style A 592 AKRON HYDRANT PUMP

Self priming and sustaining action.
Light and portable — 6 lb. weight.
Capacity 6 gallons per minute.
Adjustable to all sizes and shapes of hydrant nuts.
Complete with base and hose.
For all fire department service or commercial use.

AKRON BRASS
FIRE FIGHTING EQUIPMENT

It slams the door on fire!

WHEN fire breaks out in a room housing flammable liquids or electrical equipment, the Kidde fire-extinguishing system works at top speed . . . and efficiency . . . whether the room is open or closed.

But often, the safety of nearby workers — or the protection of adjacent equipment — calls for a still further precaution — *complete isolation* of the room itself.

Kidde equipment can do that job too!

Pressure of the same carbon dioxide that smothers the flames actuates trips that allow fire doors and windows to close. Pressure-operated switches turn off ventilating fans . . . shut down machinery. When protected spaces are occupied time delay mechanisms are provided to permit exit from the space before extinguishing takes place.

Meanwhile the carbon dioxide gas, penetrating every corner of the room, kills the blaze in a matter of seconds.

There may be a room in your plant that calls for this combination of fast fire-fighting and automatic isolation. Or other fire hazards that can best be protected by Kidde portables, wheeled units, local application systems. Ask a Kidde representative to recommend the *right* protection for each danger area in the accompanying list.

* * *

KIDDE KILLS TOUGH FIRES *in Process Rooms, Ovens, Spreaders, Motors, Storage Rooms, Mixers, Coaters, Transformers, Dip Tanks, Agitators, Washing Trays, and Control Panels.*

Walter Kidde & Company, Inc., 1245 Main Street, Belleville 9, New Jersey

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

Kidde

THIS ADVERTISEMENT IS ONE OF A SERIES APPEARING CURRENTLY IN INDUSTRIAL PUBLICATIONS

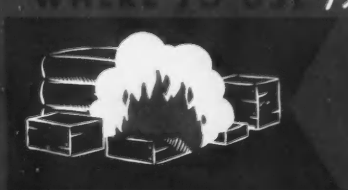
Protector

PUMP TYPE EXTINGUISHER

FLOODS FLAME

A steady stream of water, projected by Protector's double acting pump, has an effective range of 45 feet. Protector provides 5 gallons of cooling, fire quenching fluid — yet is easily portable and extremely simple to operate. When used with anti-freeze charge will operate efficiently in temperatures as low as 45° below zero. Patented Safety Phlare design assures new pump action at all times.

WHERE TO USE Protector



HOW TO USE Protector

Let General Protectioneers prescribe the right extinguisher for your every fire hazard.

IF IT'S GENERAL IT'S DEPENDABLE

THE GENERAL DETROIT CORP.

2270 E. JEFFERSON AVE., DETROIT 7, MICH.

Distributors in principal cities

CHICAGO DALLAS NEW YORK

West Coast Affiliate: The General Pacific Corp.

Seattle • LOS ANGELES • San Francisco